'*Loving to Learn, Learning to Love*'

Computing Curriculum Policy

Last Approved: December 2023

Review Date: December 2024

<u>Computing Curriculum Policy</u>

Contents

Introduction

This policy sets out our school's vision, aims, principles and strategies for the delivery of computing and the use of technology to support the curriculum. Alongside the school's Strategic Development Plan for Technology, it will form the basis for the development of the computing curriculum in the school over the next 3 years.

Sections of the text have been drawn together from a variety of sources including the National Curriculum for computing (England), the computing at Schools Guide for Primary Teachers and archived BECTA materials.

The policy was approved by the governing body on: _____

A major review involving all staff will take place in September 2022, although interim reviews of certain sections within this policy may occur before.

What is 'computing?

The National Curriculum states that:

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/coding.

Building on this knowledge and understanding, pupils are prepared to use information technology to create programs, systems and use a range of content to their gain. Computing also ensures that pupils become digitally literate; this being able to use, and express themselves and develop their ideas through, information and communication technology (I.C.T) – at a level suitable for any future workplace and as active participants in a digital world.

Whilst the computing Curriculum has an increased focus on Computer Science including developing pupils' programming skills and their understanding of what happens within the system (at a computational level), it is important that they also continue to develop their Digital Literacy and e-safety capability and our school curriculum us designed to reflect this.

- Our commitment, vision and ongoing review procedures of Safer Internet are outlined in the school Online Safety and Safeguarding Children policies.

<u>The National Curriculum</u>

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.

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 problem
- 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.

<u>Key Stage 1</u>

By the end of Key Stage 1 children should be able 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
- Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet
- Recognise common uses of information technology beyond school

<u>Key Stage 2</u>

By the end of Key Stage 2 children should be able 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 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; know a range of ways to report concerns and inappropriate behaviour
- 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

<u>Our Vision:</u>
At St. Mark's Primary School, we embrace the national vision for computing and appreciate that, to achieve this, pupils must have access to a curriculum that is 'balanced and broad,' enabling children to access and utilise all necessary skills made available to them. Through our computing curriculum we aim to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way.

At St. Mark's, it is our intention that all our children have the opportunity to discover and develop:

- o a commitment to their wellbeing, self-identity, and that of others,
- o a willingness to tackle new challenges,
- o a value in computational thinking and personal achievement, and
- o a desire to be better tomorrow than they are today.

We intend our children to become Great Learners that are confident, discerning and effective users of technology and have a good understanding of computers and how computer systems work, together with the development of coding systems and debugging where they gain confidence and take enjoyment from their activities.

In order to get the most from the Computing Curriculum, we expect our children develop the skills and characteristics of Great Learners. These will help to drive our planning and pedagogy, and enable all children to recognise their potential and ability to learn and feel successful.

We expect our learners to use and develop skills of:	We expect our learners to develop:
- listening, - observation, - programming - analysis, - questioning, - persistence, - creative thought, - self-reflection, - suggestion, and - collaboration	- a desire to learn, - commitment, - perseverance, - confidence, - self-awareness - initiative, - thoughtfulness, and - curiosity.
Developing these characteristics will further enable our intentions for the computing curriculum	

We intend our children to develop into Computational Thinkers:

In developing **Accomplished Computational Thinkers,** we intend that all children are given the opportunity to become increasingly skilful and efficient in all areas where logical thinking, decomposition and evaluation are needed. It is within these three core elements of computation (supported by a growing understanding of Digital Literacy) that we can develop through our teaching and children's learning.

- **Digital Literacy** is the ability to effectively and critically navigate, find, evaluate, summarise, use, create and communicate information using a range of digital technologies. It deals with the appropriate use of technology generated words, images, sounds and motion. Developing digital literacy is increasingly important because it supports learners to be confident and competent in their use of technology in a wide variety of contexts. The inter-related components of digital literacy can and should be developed alongside subject specific knowledge and understanding.

What does Computational Thinking mean? –

Computational thinking is about looking at a problem in a way in which a computer can help us to solve it. This is addressed in two steps:

1. First, consider the steps needed to solve a problem.
2. Then, use skills to plan and conduct a resolution to the problem, with or without a computer.

Computational thinking is not thinking about computers or like computers, rather being a active participant in the problem to solution cycle, it is the building blocks of our digital world, with the concepts forming the basis of most computer science. Computer scientists are focused on finding the most-efficient ways to solve problems, maximising accuracy and minimising resources, exploring solutions that can be applied everywhere else.

The foundations of Computational Thinking:

Computational thinking involves six different concepts and five approaches to working.

Computational Concepts	
Logical Reasoning	Logical reasoning helps us explain why something happens, it is about being able to explain why something is the way it is.
	Children will be expected to use logical reasoning to predict the behaviour of simple programs, will be encouraged to debug programs by thinking through each step logically, detecting where errors reside. Once a cause of error has been identified, logical reasoning can be used to determine how to adjust the code.
Algorithms	An algorithm is a sequence of instructions or a set of rules to get something done, solving problems in the most-effective and efficient way. Algorithms are written for a human, rather than for a computer to understand. In this way, algorithms differ from programs.
	Children will be expected to create algorithms using programmable toys (BeeBots), and as they break down larger tasks into smaller instructions, they also develop their use of **decomposition** to solve a problem.
Decomposition	Decomposition is the process of breaking down a task into smaller, more-manageable parts, making the process of solving a complex problem less challenging and easier approach.
	Children will have ongoing opportunities to decompose processes, where they will be expected to collaborate in order to solve problems by decomposing them into smaller parts as they plan and implement simple programs.
Pattern Finding	By identifying patterns, we can create rules and solve more-general problems. Looking for and learning from patterns help us to better understand the world.
	Children will be expected to explore patterns within a set of algorithms and when they see a pattern, look to create a single module of repeatable code, called a **function** or **procedure.**
Abstraction	Abstraction is about simplifying things – identifying what's important without worrying too much about detail, it allows us to think about things to different degrees of detail.
	Pupils will be encouraged to program to create their own games or simulations, thinking carefully about what detail to include or exclude
Evaluation	Evaluation is about making judgements, where possible in an objective and systematic way. Evaluation is about judging the quality, effectiveness and efficiency of the solutions, processes and systems we use.
	Children will be introduced to the idea of design goals and criteria in order to promote both self and peer evaluation of the outcomes they have achieved, giving and receiving feedback about and using logical reasoning to suggest what improvements can be made.

At St. Mark's Primary School, teachers are encouraged to develop the children's computing skills and digital fluency through discrete learning opportunities, and to also exploit this capability as a tool to further support and enhance objectives in other areas across the curriculum.

Both plugged and unplugged learning opportunities are planned to support pupils' understanding of computing. These opportunities may well be presented within other subject areas (e.g. sequencing instructions in English, problems solving in Maths or isolating variables in Science).

It is our belief that this integrated approach the computing curriculum, the use of technology will truly be used as a beneficial tool for all learning.

Our Approaches to Working	
Tinkering	We often try out something new to discover what it does and how it works: this is tinkering. It's closely associated with logical reasoning. Freedom to explore in a risk-free environment engenders confidence and a have-a-go attitude. Open-ended questions and tasks encourage creativity, diverse ideas, the ability to look at things from many different angles. Children will be given the opportunity to build up experiences of 'cause and effect,' often through trial and improvement. In computing, they might tinker with Bee-Bots or in Purple Mash, working out how to use them and thinking about what they might be used for – even noting their similarities and differences – before using these tools to solve a problem or to create something of their own.
Creating	Creating is about planning and making things. Software and digital media allow scope for creativity and, by mastering software tools and digital devices, we develop confidence, competence and independence which we can use playfully, experimentally and purposefully in the expression of our ideas and insights. Children are to be taught to "use technology purposefully, to create, manipulate, organise, store and retrieve digital content," where they will be given opportunities to create and **debug** their own programs. They will be provided with opportunities to design and create programs, systems and digital content, collecting, evaluating and presenting information.
Debugging	Bugs are errors in algorithms and code. Debugging is the process of finding and fixing these and it can often take much longer than writing the code in the first place; across the curriculum, pupils improve their work and, as part of **evaluation**, they find and fix their own and other's errors. Children will be given opportunities to use **logical reasoning** to detect and correct errors in programs, explaining what's wrong and how it's fixable.
Persevering	This is a core school value – R.E.S.P.E.C.T Persevering is being determined, resilient, tenacious – never giving up. To develop expertise in anything complex, we need to persevere and practise, train and rehearse. We recognise that computer programming is challenging. This is part of its appeal. Albert Einstein said: "It's not that I'm so smart, it's just that I stay with problems longer." In **computing**, we will encourage children to look for strategies they can use when they do encounter difficulties, and develop these to support the resilience of the children as they grow.
Collaborating	Collaborating means working with others and it frequently achieves the best results. We recognise that skills in **logical reasoning, perseverance** and **debugging** develop with opportunities to bounce ideas off classmates and to explain things to them. We will provide the children with opportunities to collaborate in computing. Working in pairs or groups, programming toys and designing algorithms.

We will strive to achieve this aim by:

- supporting all children in using technology with purpose,
- building on the framework established in the National Curriculum, supporting all children to achieve the highest possible standards, focusing on the improvement of skillset and fluency within these,
- helping all children to develop problem solving, perseverance, learning from mistakes,
- helping all children to develop the necessary skills to exploit the potential of technology and to become autonomous and discerning users,
- helping all children to evaluate the benefits and risks of technology, its impact on society and how to manage their use of it safely and respectfully, as outlined in the school's online safety policy,
- using technology to develop partnerships beyond the school, and
- celebrating success in the use of technology.
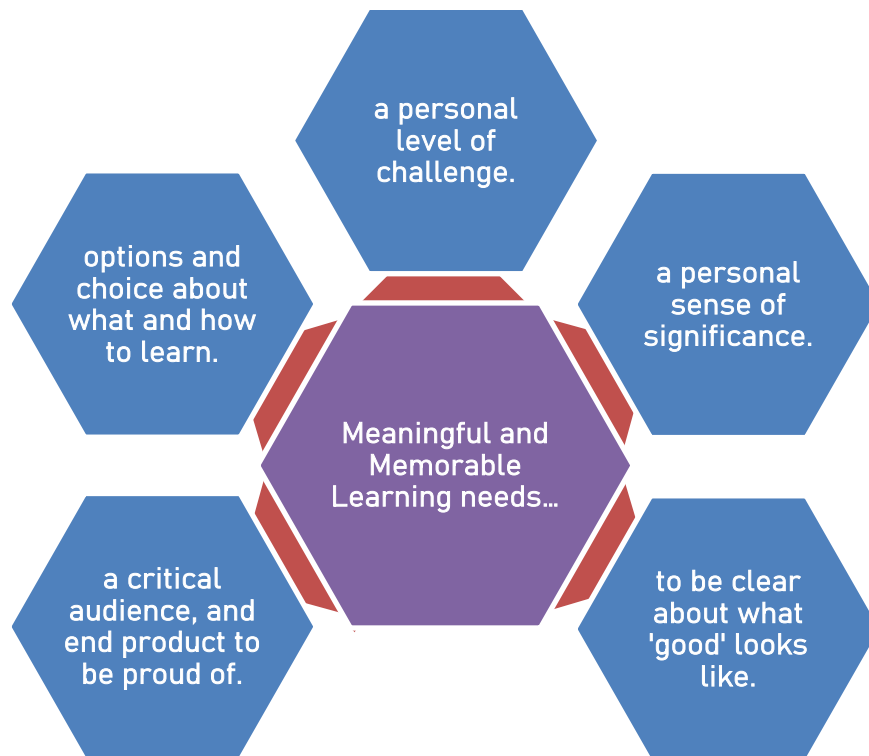
What does this look like across the school?

The table below creates a simple framework for progression across each year group of learning across the four key areas of the Compyuting Curriculum.

	Understanding Technology	Programming	Digital Literacy	Online Safety
Year 1	Pupils recognise and can give examples of common uses of **information technology** they encounter in their daily routine.	Pupils create, **debug** and implement instructions (simple **algorithms**) as **programs** on a range of digital devices. Pupils understand that **digital devices** follow precise and unambiguous instructions. They understand that digital devices can **simulate** real situations.	With adult guidance, pupils use a range of technology to enhance and present their learning. Within both specific computing lessons and cross curricular contexts, pupils are able to: • enquire with purpose, accessing **digital content** such as text, still and moving images, video and audio • collect **data** (e.g. numerical, research facts etc.) which they are able to retrieve, store and present as graphs, tables and charts • present and communicate their learning to others in a variety of ways using text, still images, video and audio, including combining 2 or more of these mediums	Pupils are becoming increasingly aware of **content**, **contact** and **conduct** benefits and risks, how to manage them safely and where to go for help and support when they have concerns or feel unsafe, worried or upset. They are beginning to develop a better understanding of their own and others' **identity** (including online), the importance of keeping personal information private and of seeking permission before sharing. They check with an adult before clicking on **pop ups, notifications** or **dialogue boxes**. They increasingly use a range of **digital devices** to communicate safely and respectfully online, making links to positive behaviour in the physical world.
Year 2	Pupils recognise common uses of **information technology** beyond school, including those which they don't frequently encounter in their daily routine. Pupils understand that computers are not intelligent but can appear to be when following **algorithms**. They can share examples of this.	Pupils understand that **algorithms** are implemented as **programs** on **digital devices**. Pupils create and **debug programs** to achieve specific goals and understand the importance of **sequence**. Pupils use the **principles of logical reasoning** to plan and predict the behaviour of simple **programs**. They solve problems on and off screen		
Year 3	Pupils understand that **computers** (in various forms) generally accept **inputs** and produce **outputs** and can give examples of this. Pupils recognise – and can describe – some of the services offered by the **Internet**, especially those used for communication and collaboration.	Pupils create **programs** to accomplish specific goals using an increasing range of **digital devices** and **applications**. They can **decompose** programs to test them and understand how making even small changes to an **algorithm** can have a significant impact on the outcome. They begin using **simple repetition** (e.g. *'repeat x times'* and *'repeat forever'*) and understand how this can be used to improve **efficiency** in their programs.	With increasing levels of autonomy, pupils are becoming confident and creative users of technology. Within both specific computing lessons and cross curricular contexts, pupils are able to: • follow and expand on agreed lines of enquiry, using key words and phrases to effectively access **digital content** such as text, still images, video and audio • identify, collect and manipulate different types of **data** (e.g. numerical, research facts etc.) which they present as **information**, showing a greater awareness of purpose and audience • present and communicate their learning to others in a variety of ways using text, still images, video and audio • They combine **digital tools** to achieve **specific goals** and think carefully about the **impact on their audience**	Pupils are able to identify a range of **content**, **contact** and **conduct** benefits and risks, describe how to manage them safely and respectfully and know where to go for help and support when they have concerns. They can explain what is meant by '**identity**', how this might be represented differently in different situations and why others might mis-represent their identity. They develop their understanding of '**trust**' and the importance of being careful about what is shared online and of giving and gaining **consent**. Pupils can describe **positive and negative effects of online activity / behaviours** and begin to understand how to make safer and healthier decisions, including considering the appropriateness of games and online content for different ages. Pupils can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.
Year 4	Pupils develop a basic understanding of how computers can be linked to form a **local network** such as those found in schools. Pupils recognise that there is a difference between the **Internet** and the **World Wide Web**. They can recognise and describe some of the services offered by the **Internet**, especially those used for communication and collaboration.	Pupils create and debug **programs** containing **simple repetition** (e.g. *'repeat x times'* and *'repeat forever'*) as well as more **complex repetition** (e.g. *'nested loops'*) Pupils increasingly use their programming capability to control or simulate a range of different **outputs** in **physical systems**. Pupils begin to explore and notice the similarities and differences between **programming languages** and use this knowledge to help them create and **debug programs** efficiently.		
Year 5	Pupils know that there is a difference between the **Internet** and the **World Wide Web** and understand that the web is just one of the services offered by the Internet (as well as, e.g. **email** and **VoIP services** such as Skype). They appreciate how **search results** are ranked, including an understanding of the use of different **algorithms** to prioritise results. Pupils understand that the highest-ranking search results may not always be the most relevant. They appraise search results based on their **relevance** and **trustworthiness**, and can explain what is meant by '**fake news**'	Pupils create, **deconstruct** and refine **programs** to accomplish specific goals. They create programs with **loops** which terminate when **conditions** are met or continue whilst **conditions** are present (e.g. *'repeat until'* and *'repeat whist'*). Pupils understand and use simple **selection** (e.g. *if/then* and *if/then/else*) to create **interactive programs** based on **conditions** being met / not met. They begin to use simple **operators** within their programs.	Pupils are confident, capable and creative users of technology. Within both specific computing lessons and cross curricular contexts, pupils are able to: • create and effectively follow lines of enquiry to support their learning, and are discerning in **evaluating digital content** they encounter • identify, collect and analyse different types of **data** (e.g. numerical, words, images, video etc.) which they manipulate and re-present as **information** for a variety of audiences and purposes • select and make effective use of **digital tools** to create digital **artefacts** both under instruction and of their own choosing • decide on the most appropriate way to present their learning – thinking about **aesthetics**, **functionality** and **impact** on the user, and responding appropriately.	Pupils identify and manage the benefits and risks of a range of online activities in terms of **content**, **contact** and **conduct** to ensure they are **safe**, **respectful** and **responsible** online. They know how to report concerns, seek support for themselves and others and persist until they get the help they need. Pupils make responsible choices about their own online **identity** and consider the potential impact of this on their **digital footprint**. They understand that online **identities** can be **copied** or **modified** and some of the possible implications of this. They can describe times when they might responsibly share **personal information** (including payment details), the importance of seeking permission and the need for **strong passwords**. They can describe ways technology may impact their own and others' **physical and mental wellbeing** (positively and negatively), understand their responsibilities in regard to this and can suggest a range of positive strategies to limit the negative impact of technology and online behaviours.
Year 6	Pupils understand and can explain how **computer networks** work, including the **Internet**. They begin to understand how **data** travels across **networks** in **packets** and how these can be broken up and reconstructed. When accessing information online, pupils recognise that **opinions** may be presented as **facts**. They can describe why an opinion may easily become popular online but they understand that this doesn't necessarily make it true. They understand that some online content may be commercially sponsored such as **adverts in search results** or content presented by **social media influencers**.	Pupils create, **deconstruct** and refine an increasingly complex range of **programs** to accomplish specific goals. Pupils create **programs** which store, change and report **variables** (e.g. scores in a game or time) and can include multiple **variables** in a single **program**. Pupils can explain why they have structured **algorithms** as they have and describe the effect this has on a **program**.		

Planning within the computing Curriculum

In computing, we believe that it is through the relationships we build where true participation and engagement in learning is established, and therefore where children:

- feel physically and emotionally safe,
- can express themselves and their ideas without judgment,
- recognise the real purpose and relevance of the learning, and as such:
- have ownership and input, related to the structure, expectations and outcomes of the session,
- are challenged to achieve high expectations, and all students receive the support necessary to meet those expectations,
- are provided with multiple and varied opportunities, where they can too experience success, and
- recognise that questions are valued more highly than answers.

a personal level of challenge.

options and choice about what and how to learn.

a personal sense of significance.

Meaningful and Memorable Learning needs…

a critical audience, and end product to be proud of.

to be clear about what 'good' looks like.

This powerful learning wheel ensures the children have the greatest opportunity to achieve. Therefore, maintaining these 5 key elements as a representation at the core principles of our curricular design, unit planning and lesson planning, will ensure all children are given the opportunity to become better tomorrow than they are today.

Our Curriculum Plan – Planning for maximum progress

In EYFS, for both FS1 and FS2, opportunities for the use of technology are an integral part of each area of learning and the school ensures that children have access to both continuous and enhanced provision. Links are made between the EYFS Early Learning Goals and the Y1 curriculum to ensure a smooth transition takes place.

Within Key Stages 1 and 2, the planning, organisation and delivery of the computing curriculum is supported by Cambridgeshire Progression in computing Capability Materials.

Our core computing curriculum model has been adapted from the National Centre for Computing Excellence (NCCE) Teach Computing programme.

- These Progression Statements are designed to break the curriculum down into 'themes' and provide guidance on progression across and between year groups and progression through each Key Stage. Using these materials, St. Mark's has developed its own flexible scheme of work for computing, together with a curriculum progression map that is adapted regularly to allow pupils' capability to be used effectively in other curriculum areas.
- This progression map, encompasses the Focus Education skill base and 'Sticky Knowledge' to ensure a clear focus on the development of skilfulness and recognition of progression across each key stage.

These core topics are mapped in a long-term plan for the whole school, with elements of each theme taught in most terms. This map is cross-referenced with all curricular subjects to provide an increased focus the school's holistic vision for computing and as such highlights opportunities for computing to be used to enhance learning or to be used as a tool develop a cross-curricular skillset.

Teaching and Learning Approaches

When delivering the National Curriculum for computing, teachers are expected to employ a range of strategies and professionally decide on the most appropriate teaching and learning approach for their class, groups of pupils or individual pupils.

Approaches and strategies used may include:

- Adaptation of the TeachComputing resources to support Quality First Teachingh
- an 'unplugged' approach in order to develop their understanding of some of the underlying concepts of Computer Science
- 'plugged' activities which allow pupils to practise and demonstrate their levels of understanding.
  - o This includes the use of PurpleMash, and supportive materials from barefootcomputing.org
- using presentation technology to demonstrate something to a group of pupils or the whole class
- leading a group or class discussion about the benefits and risks of technology
- individual or paired work
- collaborative group work
- pupil led demonstrations / peer mentoring.
  - o NB - Where one pupil is used to demonstrate or teach a skill to others, the teacher must feel confident that this is of benefit to all those involved.
- differentiated activities planned to allow different levels of achievement by pupils or to incorporate possibilities for extension work.
- teacher intervention where appropriate to support a pupil, reinforce an idea, teach a new point or challenge pupils' thinking.

<u>Access and Inclusion</u>

Each pupil's access to technology varies greatly dependent on the nature of the activity they are involved in (e.g. some activities benefit from prolonged access to a computer whilst other are best served with brief access to a digital device for a focused purpose). However, allocated time for computing each half term, using a mixture of unplugged activities and the following technology, is planned separately within each medium term plan to support teacher flexibility. As discussed however, cross-curricular links have been established within the school's Long Term Plan, and it is the teacher's responsibility to ensure all key objectives are taught (this will be monitored through professional discussion and provision mapping.)

- Laptops
- iPads
- Programming equipment, including BeeBots, Scratch, PurpleMash,

All children have equality of access to appropriate technology in order to develop their personal computing capability. When children are working in groups, we endeavour to ensure that their hands-on experience is purposeful and provide an equal opportunity for all children. We check resources, software and documentation to ensure that gender and ethnicity are reflected in a balanced way without stereotyping.

The SENCo and computing Subject Leader will jointly advise teachers on the examples of technology that can be provided to support individual children with particular physical, linguistic and educational needs, including gifted and talented pupils. Where appropriate, an external specialist may be used to assess a child's specific needs with respect to their use of I.T to enhance and support global learning.

At St. Mark's, children with access to technology at home are encouraged to use it for educational benefit and online safety guidance is offered to both pupils and parents where appropriate. This information, provided by SaferInternetUK, is shared with parents, keeping them up-to-date with the latest trends and online behaviours.

The school has identified those pupils who have limited or no access to appropriate technology outside of school and provide additional opportunities for these pupils to gain access during the school day / after school.

All pupils are taught to handle equipment correctly and to switch computers on and off using the correct procedures. The dangers of electricity are stressed and all of the above are presented so as to ensure the pupils respect the equipment and respect other people's work on the computer. All users are also reminded of the need to take regular breaks when using electrical equipment.

<u>Extended Opportunities for Learning</u>

It is our intent to utilise a variety of online tools and environments to extend learning opportunities beyond the classroom. In addition to facilitating remote learning, as outlined in the Remote Learning Policy, we recognise that online learning tools allow pupils to access learning materials and tools anytime, anywhere and provide channels of communication to both adults and children alike and break down barriers to learning. Our online learning tools, including PurpleMash, are also used to teach children the skills and capabilities they need to stay safe and well in the digital world.

Other examples of Extended Opportunities for Learning at St. Mark's Primary School include:

- After school clubs, including a 'coding club'
- Family Learning events
- Parental online safety events, including Webinars,
- Safer Internet Day

Safeguarding Children: Online Safety

At St. Mark's Primary School, we believe that the use of technology in schools brings great benefits. To live, learn and work successfully in an increasingly complex and information-rich world, our children must be able to use technology effectively, responsibly and safely. The use of these exciting and innovative tools in school and at home has been shown to raise educational standards and promote pupil achievement. Yet, at the same time, we recognise that the use of these technologies can put young people at risk within and outside the school.

Our approach to online safety and safeguarding children and staff when using technology both within and beyond the school is published in the school's Online Safety. This policy has been developed according to local authority guidance provided through SaferInternetUK. Our Internet Safety curriculum is supported through Project Evolve and the 360' Review tool that consistently enables the school to monitor it's practice and ensure 'up-to-date' provision. This policy takes into account the government's 'Teaching online safety in schools' guidance and 'Education for a Connected World' from the UK Council for Internet Safety.

For more information, please refer to the school's Online Safety policy.

Monitoring

The computing subject lead, together with the Deputy Headteacher, aim to follow a systematic and regular programme of evaluation and monitoring of the computing curriculum, across the school.

It is our intention to monitor the quality of education being provided to all pupils, through:

- Checking that the school's curriculum 'Implementation' matches its 'Intent'
- Evaluating the success (or otherwise) of curriculum planning and delivery
- Having an awareness of impact and be able to demonstrate progression and attainment
- Having an overview of resource and staff training needs

Monitoring is completed via a variety of methods including:

- Peer-to-peer coaching and observations, together with the moderation of of planning
- Pupil work scrutiny
- Cross-curricular meeting with other subject leads
- Pupil voice
- Staff feedback and ongoing discussion

As a result of monitoring and auditing, appropriate CPD opportunities will be provided for all staff on an individual, group and whole school basis in line with the school's wider CPD policy, School Development Plan and Strategic Technology Development Plan. A record of these opportunities is kept by the Subject Leader, Deputy Headteacher and individual members of staff.

Recording and Assessment

Assessment of the computing curriculum is carried out in accordance with the advice provided by the Cambridgeshire Progression in computing Capability Materials. These documents are made available to staff to support both planning and assessment.

We will ensure that:

- appropriate Assessment for Learning approaches are applied to formative assessment in order to inform future planning, in accordance to the school Teaching and Learning Policy and Assessment Policy.
- pupils' achievement and attainment is assessed and recorded on at least an annual basis, with increased focus on termly assessment where monitoring identifies the need
- pupils' achievement and attainment is measured against the relevant National Curriculum requirements at the end of each Key Stage and reported according to government guidelines (including statutory requirements for reporting to parents)

Roles and Responsibilities

The role and impact of technology stretches beyond the National Curriculum for computing and it is therefore important to acknowledge the roles and responsibilities held by key people across the school.

Head Teacher

The following responsibilities are carried out by the head teacher:

- ensuring the consistent implementation of computing policy
- ensuring continuity between year groups
- overseeing health and safety policy and practice
- resources budget management
- ratifying the school's Strategic Development Plan for Technology
- arranging in-service support
- Leading the development and implementation of the school's e-safety policy in line with other Child Protection policies

Computing Subject Lead

The following responsibilities are carried out by the computing subject lead:

- presenting exemplary practice in the teaching of computing
- advising colleagues on planning, delivering and assessing computing
- Monitoring the effective use of technology and giving advice where appropriate
- ensuring progression in computing
- suggested purchasing plans for hardware and software
- organising computing resources
- identifying the support / CPD that is needed by individual staff / groups of staff / the whole school
- reviewing and revising the computing policy and other associated documents
- creation of a school portfolio of evidence, together with supporting all staff to maintain the curriculum area on the school website.
- Co-ordinating and overseeing equipment maintenance, with the support of the ICT support technician.

ICT Support Technician

Responsibilities carried out by an ICT Support Technician

All equipment is supported and maintained through a weekly an in-house technician who works under the direction of the computing Subject Leader, School Business Manager and Headteacher

Safe Disposal of Equipment

Government regulations state that any old electrical or electronic equipment must be disposed of in an environmentally responsible way.   The regulations which govern this are the Waste Electrical and Electronic Equipment Regulations (WEEE) 2006 and 2013. Schools are therefore required to have a compliant process for disposing of waste electronic and electrical equipment (anything that requires batteries or a plug to operate).

The school acts in accordance with advice gained through the Cambridgeshire Education ICT Advice regarding safe disposal of equipment. In particular, electrical equipment is safely disposed of (and wiped where necessary) through an Asset Disposal Service provided by the Local Authority and the appropriate certificates are obtained and kept by the school office.

This policy will be reviewed yearly.

Signed: ……………………………………… Headteacher

Signed: ……………………………………… Co-Chairs of the Local Governing Board

Signed: ……………………………………… Co-Chairs of the Local Governing Board

Date: December 2023

Review date: December 2024