



Computing

Subject Policy and Expectations

(For Staff, Local Academy Board and Families)

Mr R Gough

Academic Year: 2023 - 2024

Policy Reviewed by Subject Leader: June 2023

Policy Reviewed and Approved by LAB: June 2023

Next Policy Review Date: June 2024

Care

Respect

Trust

Thankfulness

Challenge

Our School, Our St Nicholas Curriculum

Our school's curriculum is its backbone; it communicates, develops, and enhances community-wide culture, morals, values and aims, that contributes to children leaving our school as well-rounded members of society. It permeates every aspect of school life and demonstrates to the wider community our school's commitment to shaping future generations and the world's future leaders, whilst providing a clear structure and purpose for learning about and understanding the diverse world around them.

Our School Vision

Walking in the footsteps of Jesus with Care, Respect, Trust, Thankfulness and Challenge

Our Values

Care: Clothe yourself with compassion, kindness, humility, gentleness and patience. *Colossians 3:12*

Respect: Do to others as you would have them do to you. *Matthew 7:12*

Trust: My God is my strength in whom I trust. *Psalms 18:2*

Thankfulness: Always be thankful. *1 Thessalonians 5:16*

Challenge: I can do all things through Him who strengthens me. *Phillipians 4:13*

Our Curriculum Vision

Rooted in our Church ethos, we aim to deliver on our children's future through a curriculum that offers vibrant, diverse and creative experiences and opportunities. In turn, children leave St Nicholas prepared and equipped with the lifelong knowledge, skills and concepts to play an active role as a safe, happy and productive member of our global community.

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Our Curriculum Aims and Culture

A Head, Heart, Hands, Health approach to learning and personal development

Head



Preparing our children with knowledge and skills for lifelong learning, that contributes to their understanding of the wider diverse world, so they become well-rounded members of society.

Hands



Developing hands-on skills and knowledge, to enable our children to be resilient and creative learners, who take risks and explore ideas in different ways.

Heart



Promoting our children's love for learning, exploring how it links to everyday life, whilst having the pride and desire to undertake challenges, in order to be the best they can be, through following Jesus as a role model.

Health



Equipping our children to recognise how they can help to keep themselves spiritually, mentally and physically happy, healthy and safe by making the right, positive choices.

Curriculum Principles

Our curriculum is **Balanced...** it allows our pupils to acquire and develop a carefully planned, well-rounded and informed set of knowledge and skills, to prepare them for the next phase of their education. This means complete equity for every child, in every year group and in every subject across the curriculum.

Our curriculum is **Progressive...** it activates and builds on what our children already know and aims to sequentially develop ideas and concepts clearly over time, in order that children develop a robust overview of the 'bigger picture', and ultimately apply and explore their learning from different open-ended dimensions.

Our curriculum is **Quality...** significant thought and consideration is invested into the planning, delivery, resourcing and facilitation of the provision by our staff to ensure that it drives what we strive to achieve for our children. High quality provision that is rooted in evidence-informed practice is the linchpin to driving our standards forward.

Our curriculum is **Accessible...** whereby all pupils regardless of background or disposition are given the tools to achieve their very best, whether this be through scaffolding and support strategies, or through stretch and challenge. All children are given the opportunity to experience success and more through an informed and responsive approach to teaching and learning.

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Our Aims and Aspirations for Computing

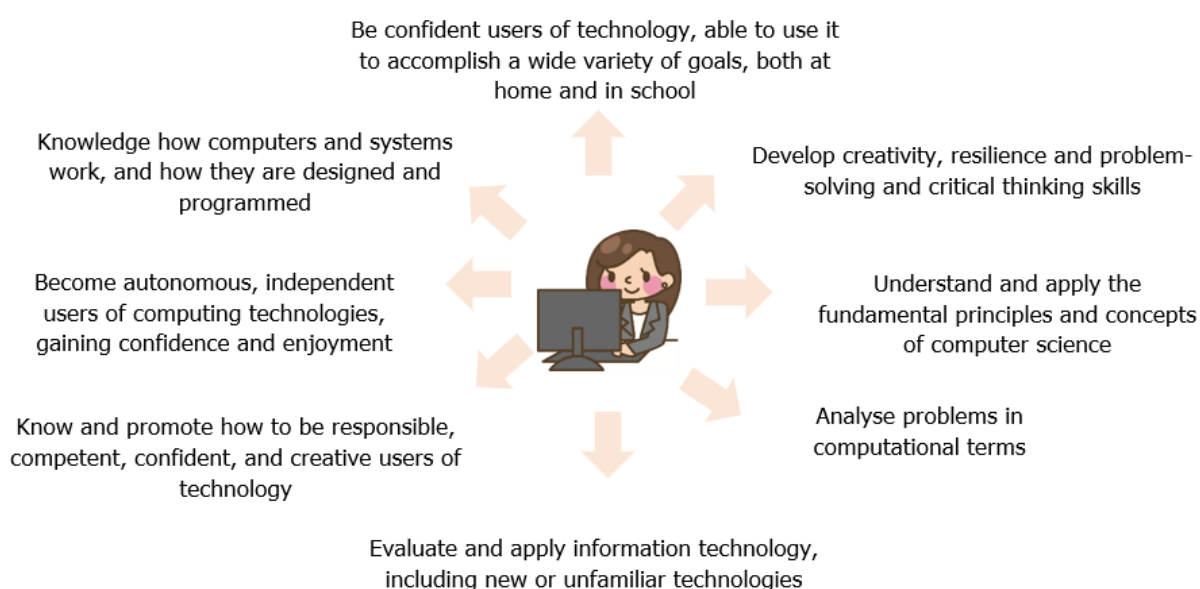
Why is Computing important for our learners at St Nicholas?

The use of technology and online services is an integral part of the National Curriculum and knowing how they work is a key life skill. In an increasingly digital world, there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. At St Nicholas' CE First School we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to learning how digital technology works, the use of technology and the skills necessary to become digitally literate and participate fully in the modern world. The purpose of this policy is to state how the school intends to make this provision.

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. 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. By the time our children leave us at the end of Year 4, we aim to have prepared our 'St Nicholas Digital Ambassadors' with a robust foundation for the continuation of learning in Year 5 and Year 6, and beyond.

What are our aims and aspirations for the St Nicholas Digital Ambassador?

By the time our children leave St Nicholas CE First School, we aim for them to:



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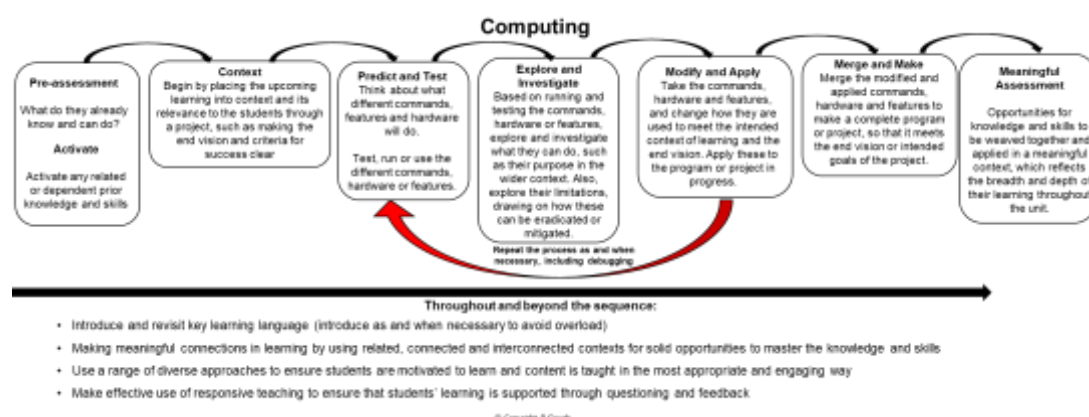
Thankfulness

Challenge

Curriculum Design in Computing

Structure

We have a very clear plan for children's learning progression, which helps them to build on prior learning, supported using a scheme (Purple Mash). This scheme was selected because it offers a well-rounded, interactive and progressive pathway to support learning a range of digital skills; a independent review of its effectiveness [can be found here](#). Computing is taught in units of learning, where the knowledge and skills being learnt are closely related and sequenced so that they are continually built on over time and complete the bigger picture of learning. In our Computing curriculum at St Nicholas, a unit of learning will each be one half-term (consisting of around six discrete one-hour lessons) so that there are ample opportunities for the acquisition and application of learning over time.



Whole-School Curriculum September 2023 Adaptation:

- Online Safety lessons are now at the start of every year group to set the context for safe principles and practices when using technology online and offline.
- Coding has also been brought together for all year groups (except for Year 1, due to other units providing the pre-requisite essential knowledge)
- An introduction to Artificial Intelligence (AI) has been added towards the end of Y4 considering children moving to Middle School.

Computer Science		The technical design. The design of new software, the solution to computing problems and the development of different ways to use technology.							
Information Technology		The technical knowledge. The design, use and understanding of hardware and software; computers and electronic systems for storing and using information.							
Digital Literacy		The technical skills. The ability to use information and communication technologies to find, create, evaluate, and communicate information.							
Please note that colours denote the main focus of the unit (almost all units draw together all three Computing pillars of progression).									
Year 1	Unit 1: Online Safety	Unit 2: Grouping and Sorting	Unit 3: Pictograms	Unit 4: Lego Builders	Unit 5: Maze Explorers	Unit 6: Animated Story Books	Unit 7: Coding	Unit 8: Spreadsheets	Unit 9: Technology Outside School
Year 2	Unit 1: Online Safety	Unit 2: Coding	Unit 3: Spreadsheets	Unit 4: Questioning	Unit 5: Effective Searching	Unit 6: Creating Pictures	Unit 7: Making Music	Unit 8: Presenting Ideas	
Year 3	Unit 1: Online Safety	Unit 2: Coding	Unit 3: Spreadsheets	Unit 4: Touch Typing	Unit 5: E-Mail	Unit 6: Branching Databases	Unit 7: Simulations	Unit 8: Graphing	Unit 9: Presenting Ideas (PowerPoint)
Year 4	Unit 1: Online Safety	Unit 2: Coding	Unit 3: Spreadsheets	Unit 4: Writing for Different Audiences	Unit 5: Logo	Unit 6: Animation	Unit 7: Effective Searching	Unit 8: Hardware Investigators/Introduction to Artificial Intelligence	Unit 9: Making Music

For Computing, we follow the National Curriculum's aims and expectations, which [can be found here](#). Computing has at least one hour of curriculum time each week, where research by the Education Endowment Foundation, STEM organisations, Cognitive Science, and The Computing At School (CAS) Working Group has been triangulated and connected to inform our approach.

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Curriculum Provision in Computing

Effective Teaching and Learning

Teaching and learning in Computing is highly interactive and supports all children to adopt an active role in their learning journey, through whole-class, small group, paired, and independent activities. Although we adopt a mastery approach to teaching and learning, it is important that subject leaders and teaching staff work collaboratively to make adaptations to match the support and challenge requirements of all children, such as those with Special Educational Needs and/or Disabilities, and/or those who are at a more advanced level of knowledge, understanding and skill.

A minority of children will have 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 high-attaining children, those with SEND 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, teachers should bear in mind that special arrangements could be made available to support individual pupils. This is in accordance with the school inclusion policy. These children should be identified and discussed at pupil progress meetings to ensure that appropriate provisions and/or interventions are affected.

Every lesson will include the following structure to offer a consistent approach to teaching and learning provision:

Revisit and Review: Revising prior learning to ensure that 'knowledge and skills have stuck' (this will involve a game from the previous lesson) and to provide a clear context and rationale for new learning.

Contextualisation: Imparting the rationale for the learning so that pupils understand the relevance of it to their lives and the lives of others, including how it will support them in later life.

Predict and Test: Having the opportunity to make predictions and test what different digital and physical components do in a safe environment.

Explore and Investigate: Supporting children to discover ways of finding out new things and pursuing their own investigative enquiry as part of this

Modify and Apply: Take what is known and make changes to ensure that it meets the intended end-goal. This involves opportunities for experimentation.

Merge and Make: Draw together all the knowledge and skills and apply to build the bigger picture of learning and ultimately a clear outcome or end-goal

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Responsive Teaching and Learning

As school that is responsive to the needs of our children, we set high expectations for all and therefore we recognise that there are two significant approaches to an inclusive environment: 'Scaffold and Support', and 'Stretch and Challenge'.

Scaffold and Support is our approach to implementing provision that gives every pupil the very best chance to secure the learning intentions; this can be through a range of support strategies such as additional modelling, questioning and resources to scaffold pupils' thinking and learning.

Stretch and Challenge is where we have identified pupils that are exceeding age-related expectations. Therefore, these types of strategies challenge them to deepen their learning and thinking, where critical evaluation and thinking play a key role in pupils seeing their learning from different dimension.

Scaffold and Support in Computing	Stretch and Challenge in Computing
Copy Code: This technique is where children are given a set of instructions to follow to create a program. Children follow a set of instructions, line by line and discover how it works in small steps. Shared Programming: This method is very similar to shared writing, where the teacher knows what they want to teach and is showing children not only what the finished product looks like but is also explaining the making process and their thought process. Guided Exploration: Children are provided with just 2 or 3 steps that they must explore. The teacher has an idea in mind of what they want children to learn, but rather than telling them what the commands do, they ask children to find out.	Open-ended challenges: Children are given an end-product and need to plan and pull together the necessary tools and programs that will achieve this. This also involves seeking the needs of user(s) and purpose, ensuring that children evaluate their product to meet these needs. Problem-Solving: Use of abstraction and decomposition to break a problem and find the cause of it. They then use their imagination to consider and apply creative ways of solving a problem.

Whilst the class teacher takes a central role in facilitating learning, there are many opportunities for children to promote, acquire and apply our St Nicholas Skills for Lifelong Learning:

A St Nicholas learner will always apply their lifelong learning skills:			
			
Eager	Resilient	Reflective	Collaborative
I see, I think, I wonder...	I set goals to challenge myself.	I use what I already know to help me.	I listen to others.
I plan and think through my learning.	I break my learning and task into chunks.	I think about how I am getting on.	I explain things to others.
I think of new and creative ideas.	I find tools to help me with my learning.	I listen and respond to feedback.	I talk about my learning.
I dive deeper into my learning.	I keep going and never give up.	I am proud of what I can do.	I am honest and trustworthy.
I apply my learning to real life.	I use mistakes to help me learn.	I see where to go next.	I work as part of a team.

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Responding to the Needs of Learners

Feedback for Learners

We expect children to apply their skills for lifelong learning and take an active, reflective and committed approach to learning. Therefore, taking and acting on feedback from their class teacher and peers is central to moving learning forward, where the class teacher will provide clear, concise and constructive feedback during the lesson whilst learning is 'in progress'. In addition, the Purple Mash portal will also provide 'on the spot' feedback to learners and adjust the task to suit whether pupils require additional support or challenge.

How is assessment embedded and used meaningfully in this subject?

The Role of Assessment

It is important that children take a more central role in assessment and feedback through self and peer assessment, where the expectation is that they will take responsibility for recognising their achievements and how they can move forward. This will involve marking their work in collaboration with the class teacher and the whole-class, followed up by constructive and developmental dialogue with their peers about their progress; the class teacher will also engage in these conversations, whilst reviewing progress in the lesson to make accurate judgements about achievement. This approach not only develops children's self-efficacy but also reduces staff workload.

Teaching staff will draw together a range of triangulated evidence (children's work, questioning and observations of learning and progress) to make clear, robust judgements of children's attainment. This is entered onto our online tracking system (Insight) for each objective within a unit of learning, therefore enabling teachers to recognise those who may require additional support or challenge. Children's attainment will be judged in one of three ways per term: Working Towards, Working Within and Towards, Working At, or Working Above the Expected Standard.

Enrichment and Engagement (Promote Diversity, Equality and Intercultural Understanding)

Cross-Curricular Contextual Application: Teachers actively seek out opportunities for our children to apply their learning from Computing in different ways. This supports their retrieval of key knowledge, skills and subject-specific learning language.

Workshops and Clubs: We are proud partners with 'Jam Coding', who support the delivery of enhancement workshops and clubs beyond the classroom. These are based around exciting contexts (e.g. creating an animation film for a movie night), where children are immersed in using a range of digital applications, knowledge and skills across the Computing curriculum, and creatively connecting these for meaning and purpose.

Beyond Classroom Access: Our children are encouraged to engage in their learning beyond the classroom. Therefore, they have full access to all of the activities and digital applications

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used within their Computing sessions within school, in order that they consolidate or pursue their own intellectual lines of learning enquiry.

Curriculum Evaluation in Computing

At St Nicholas, we use a range of quantitative and qualitative evidence-gathering techniques that are triangulated to draw together valid, accurate and robust evidence-based findings to make rigorous evaluations about the impact of our teaching and learning. This supports us to celebrate achievements whilst also recognising key priorities for future development. It is important that we evaluate our curriculum against our aims and aspirations.

These evidence-based findings are drawn together and directly feed into subject leader action planning, which is then shared with the Local Academy Board (LAB) to hold the school to account for teaching, learning and children's progress and achievement in Computing.

How do we evaluate?	What are we evaluating? Why are we evaluating in this way?	Who is involved?
We look at children's work.	Looking at children's work helps us to see the opportunities they have had to apply their learning meaningfully and in ways that reflect a deeper approach to learning.	Subject Leader Children Colleagues
We talk to the children about their learning and let them share their views in different ways.	Talking to children and recognising their views helps us to see identify the extent to which children are engaged and interested in their learning, and what we can do to make their experiences even more meaningful.	Subject Leader Children
We talk to and gather views from parents about their child's learning and experiences.	Gathering views from parents helps us to shape our understanding of children's experiences and opportunities across the curriculum from a different yet important perspective.	Subject Leader Colleagues Children Parents
We have professional and reflective discussions with our colleagues.	Professional and reflective discussions with colleagues helps to share and exchange ideas about effective practice and priorities for moving forward.	Subject Leader Colleagues
We visit lessons to see strategies, opportunities and experiences used for learning.	Visits to lessons help colleagues to recognise the extent to which strategies, opportunities and experiences in lessons have an impact on maximising children's progress and meeting their needs.	Subject Leader Children Colleagues
We look at subject planning.	Reviewing subject planning is important to explore how appropriate the design of the curriculum is in maximising learning progress and to ensure that children build the bigger picture of knowledge and skills over time.	Subject Leader Colleagues
We look at and analyse pupil progress and achievement.	Analysing children's progress and achievement in more detail helps to develop lines of enquiry and identify key groups or subject areas that may benefit from further development.	Subject Leader Colleagues

Identifying Staff Continual Professional Development Needs

Continual Professional Development (CPD) is integral to the development of teaching and support staff to ensure that they are well-equipped to plan, deliver and evaluate a high-quality

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curriculum. The direction of CPD is steered through triangulated findings from the evidence-gathering techniques and staff audits.

CPD will be facilitated in the following ways:

- **Colleague Networking:** Working with other colleagues to build capacity and staff self-efficacy through a bespoke package of CPD (such as professional discussion and observation). This may be through working with staff at St Nicholas, across the MAT or beyond.
- **Staff Workshops:** Personalised whole-school staff developmental sessions to support pedagogical knowledge, strategies to motivate, challenge and support, and subject knowledge development. This may include inviting 'experts' to support staff development or enrolling members of staff in face-to-face or virtual courses.

Expectations and Responsibilities

The Local Academy Board (LAB), Senior Leadership Team, Subject Leader and Teaching Staff have key responsibilities to uphold the high expectations, principles, design and provision of our Computing curriculum as follows:

Local Academy Board	Senior Leadership Team/ Subject Leader	Teaching Staff
• Rigorously review the policy and expectations for Computing to ensure it meets the school's curriculum principles, drivers and rationale. • Hold the subject leader and school to account for the design, provision and evaluation of Languages (French). • Regularly meet with the subject leader to explore findings from evidence-gathering and discuss how this will feed into subject action planning. • Plan for and communicate potential financial, time and resourcing commitments with the LAB, that will be required as part of the subject action plan.	• Implement evidence-gathering techniques to gather a well-rounded evaluation of the impact of the design and provision in Computing, including working in collaboration with members of the LAB. • Widen pupils' celebration of diversity and intercultural understanding through facilitating a range of engaging, inspirational and aspirational enrichment opportunities. • Identify and plan to address key priorities for development that will move the curriculum forward, including potential financial, time and resourcing commitments required. • Identify staff CPD needs and design bespoke developmental sessions and coaching that will address key priorities, including subject knowledge. • Support staff across the school to deliver a balanced, progressive, high-quality and consistent Computing curriculum, that supports and challenges children.	• Plan lessons that motivate, challenge and inspire pupils using a range of teaching and learning strategies. • Provide pupils with clear, concise and constructive feedback about their learning progress and achievement. • Use a range of evidence to make a robust and accurate assessment of pupil attainment and progress. • Communicate progress and achievement with parents/carers. • Ensure that lessons are well-resourced to support pupils' learning. • Support the facilitation of engaging, inspirational and aspirational enrichment opportunities that widen pupils' celebration of diversity and intercultural understanding. • Adapt teaching and learning strategies, resources and activities to support children who require additional support or challenge.

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If you require any further information regarding the content of this policy, would like to know more about or feel you could contribute to our Computing curriculum, please contact the subject leader using the following contact details:

Name of Subject Leader: Mr R Gough

Telephone (School Office): 01902 842998

Subject Leader E-Mail Address: Office@st-nicholas.staffs.sch.uk (FAO: Computing Subject Leader)

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