



Computing and Online Safety

Intent

Vision Statement:

We recognise that the Curriculum reaches far wider than the learning that happens in formal lessons in each classroom. It includes everything that a child experiences in their time at our school and develops the very person they are becoming, with their talents, their needs and their aspirations for the future. Each experience provides a learning opportunity to develop and prepare our children for life in modern Britain as global citizens through the lens of Catholic life.

At St Gregory's, we are inclusive and recognise that everyone has their own unique God-given talents. Our curriculum is progressive and builds on prior knowledge, understanding and skills so that we develop our whole school community academically, spiritually, emotionally, morally and socially. This enables our children to develop cultural capital and become righteous citizens who give to society. We provide creative and engaging opportunities that inspire and motivate our children to become lifelong learners and aspire to be the very best they can be.

In Computing, we aim for all of our children to see themselves as computer scientists. We endeavour to inspire a sense of curiosity in our children and develop their enthusiasm for Computing, recognising that the skills and knowledge they learn through Computing can be used to have a positive impact on God's world around them.

To be able to be a Computer Scientist, children will need to build the skills, knowledge and understanding of computing. They will need to understand and use the language of computing and apply these computing skills and knowledge across the curriculum, making connections both within computing and across other subjects too.

At St Gregory's, we recognise the integral part that technology plays in our children's lives and aim to equip children to become active and responsible participants in the ever-changing digital world. We are aware that our children's access to technology outside of school varies widely and also of the barriers and stereotypes that exist in the world of Computing, particularly around gender and race. We therefore aim to inspire all children to consider themselves as the computational thinkers and computer scientists of the future. Furthermore, we aim to develop children's perception of technology as a tool for learning, innovation and discovery, as well as helping them to understand the advantages and disadvantages associated with online experiences.

As such, we teach children to understand how computers work (Technology in Our Lives) as well as what measures can be taken to keep themselves and others safe online (Online Safety). Our curriculum focuses on Information Technology (Multimedia and Data Handling), Digital Literacy (Online Safety) and Computer Science (Programming and Technology in our Lives) and aims to give children a deep and broad knowledge through opportunities to apply skills in various digital contexts. Ultimately, all children leave St Gregory's as confident, able and responsible Digital Citizens who are prepared for the technological challenges they will face in the future.



Implementation

Statement of Implementation:

The aims of the National Curriculum (2014) for Computing are to ensure children:

To be computer scientists, children need to:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- be responsible, competent, confident and creative users of information and communication technology.

The National Curriculum is the part of the St Gregory's curriculum that maps out the knowledge and skills that we want our children to learn and experience in each subject. The wider curriculum includes a number of vehicles to develop the whole child and includes:

- **Inclusion using teaching for mastery** – Our mastery approach ensures that all children are exposed to the same curriculum content by breaking sessions down into small learning intentions and focusing on developing deep understanding, providing support and intervention to address each individual pupil's needs. This enables all children, including those with SEND, from disadvantaged backgrounds and from multi-lingual backgrounds to achieve their true potential through careful support and scaffolding.
- **Oracy, vocabulary and reading for pleasure** – We provide a language-rich environment with a sharp focus on Oracy and the development of rich vocabulary which includes technical vocabulary relevant to the progression of each child's learning. Talk is central to learning and as such, Oracy activities are woven through all activities and experiences to give children plenty of opportunity to develop and practise their speaking and listening skills. Reading is integral to our curriculum design with daily opportunities to hear and read a range of texts – this exposes children to a wider range of vocabulary and develops a love of reading.
- **Catholic Social Teaching** – are the principles to living life through the lens of a Catholic. They are principles that support children to make links from their learning through to the world in which they live and helps them to be givers rather than takers in our society. These are woven carefully through the subject lessons and also used to apply the knowledge of the topics through discreet lessons to help deepen their understanding of the context of their learning in the wider world and empowering them to challenge social injustice.
- **Metacognition and self-regulated learning (including growth mind-set and restorative practice)** – Children are supported to manage emotions, develop a positive sense of self, set themselves aspirational goals and have confidence in their own ability. This is supported by the use of our St Gregory's learning profile and growth mind-set approach giving our children a better awareness



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of how they learn, the emotions linked to this and the transferable learning skills needed to be the very best they can be and reach their potential.

- Teachers support pupils to plan, monitor, and evaluate their learning. Developing the children's **metacognitive** knowledge of how they learn and their knowledge of themselves as a learner and strategies that help them – these things support them in becoming independent learners.
 - **Restorative practice** helps our children to develop stronger relationships, and become problem solvers within these relationships, setting firm foundation for learning, so that they are more resilient to overcome adversity within their lives.
 - **Self-regulated learners** are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning.
- **Retrieval opportunities** – enable our learners to embed knowledge by transferring it from their working memory to their long term memory. We make deliberate connections between current and prior learning and recall learning by providing opportunities such as quizzes, oracy activities and challenging discussions based on question stems.
 - **Extra-curricular opportunities** – provide a wide range of additional experiences for the children to inspire them within their learning and add a wider context for them. This also enables us to seek out and develop the talents in every child. e.g. trips, computing/coding clubs, assemblies and focussed STEM events.

These aspects are expanded further in our [teaching and learning policy](#).

How we plan for progression in Computing at St Gregory's:

In order to cover all skills and the technical knowledge computing is taught discretely. Computing is taught on a weekly basis for a minimum of one hour. All classes, including EYFS, are allocated a timetabled slot in the Computer Room. Further to this, additional slots are requested by teachers to support use of technology in the wider curriculum. Computing skills are further enhanced by the provision of additional equipment such as a class set of 30 laptops, Beebots, cameras and tablets.

We recognise that foundations for becoming a computer scientist are laid in the Early Years Foundation Stage through all seven strands of the Early Year Framework and to be ready for the next stage in their education, the starting point that we strive for every child to have upon entry to Year 1 and working towards the aims of the National Curriculum is:

Computing		
Physical Development	To develop hand-eye coordination.	Throwing and catching, mark making, painting, threading, pegboards, using cutlery, painting, drawing on interactive whiteboard.
Understanding the World	To engage with text that fosters understanding of our technologically diverse world.	ERIC time, growth mindset texts, access to a broad range of fiction and non-fiction texts that celebrate creativity and ingenuity, Oxford Owl website, Teach Your Monster to Read, Newsround.
Maths	To develop spatial reasoning skills.	Adult modelling, tape measures, rulers, weighing scales, sand timers, 3D building blocks, 2D shape tangrams, measuring jugs, different sized containers, beebots, Oracy, circle time games, using interactive whiteboard.
Our additional offer: To further prepare children for the National Curriculum for computing we provide opportunities for children to engage with a range of technology such as tablets, digital cameras, toys with buttons and laptops/computers. Children enjoy engaging with the interactive white board during lessons and they learn how to use a toaster and a microwave. They make visits to the computer suite prior to joining Year 1 and identify some differences between a tablet and a computer when they're there.		



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Our EYFS children participate in a range of computing activities to give them the skills and knowledge to be digitally literate individuals and prepare them for the Year 1 curriculum, some of these opportunities include:

Topic Name	TERM 1 Super me!	TERM 2 Let's Celebrate	TERM 3 Our Wonderful World	TERM 4 Food, glorious, food	TERM 5 All Things Wild	TERM 6 Whizz, Pop, Bang!
Core Texts	Supertato	Thread of love	The Queen's Hat	The Hungry Caterpillar	Dear Zoo	Instructions - How to make gloop
Computing <i>Although computing is not included within Development Matters or within the ELGs, it is still vitally important that children enter Year 1 with a strong foundation of knowledge. Computing in EYFS also ensures that children develop listening skills, problem-solving and questioning. We know the importance of our children understanding digital literacy.</i>	Taking photographs with the VTECH camera Choosing filters and games on the camera Watching videos and exploring music on the interactive whiteboard Using mobile/house phones in house role play Discuss and create online safety rules for class and home Identifying age appropriate apps and programmes for our age Share online safety rules with parents	Continue taking photographs with the camera Watching videos and exploring music on the interactive whiteboard Technology within role play area Using sound button flowers in outside area to record messages and play them back Introduce Beebots and following simple algorithms with our own bodies eg. turn left, take one step forward Revisit online safety rules Identifying age appropriate TV shows/streaming platforms	Playing age appropriate games on the interactive whiteboard Selecting favourite songs and videos Revisit Beebots Using iPads/digital cameras to take pictures on a local walk Introduce walkie talkie headsets Revisit online safety rules Know who to talk to about digital safety Visit from digital safeguarding team	Playing age appropriate games on the interactive whiteboard Revisiting Beebots and create own simple algorithms Using keyboards to type Introduce class laptop trolley Revisiting online safety rules Discussing the use of passwords and personal information	Construct pictograms (children's favourite fruit) Carry out surveys and discuss results (favourite food) Revisiting Beebots and create own simple algorithms Visit the computer room or have laptop trolley once a fortnight Using a mouse Make marks using 2Paint Changing the colour of paintbrush on 2Paint Revisit online safety rules	Naming parts of a computer (screen, mouse, keyboard) Open and close pictures made in 2Paint/Microsoft Paint Adding a text box and typing names onto 2Paint/Microsoft Paint Revisit online safety rules

We recognise that keeping our children safe is of paramount importance therefore we discreetly teach Online Safety in each term in EYFS:

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
I know the rules for keeping ourselves safe online.	I can use a range of technology safely.	I can play age appropriate games on the Internet.	I understand what password privacy means.	I can discuss appropriate TV programmes and websites.	I can talk about who can help me if I feel uncomfortable/unsafe online.

Once children enter Year 1, they work progressively towards the aims of the National Curriculum. To ensure progression, the teaching team worked together to plan out curriculum coverage and then the subject leader identified the progression of skills and vocabulary required at each stage of learning to prepare children for the next stage in their learning.

Computing Curriculum Coverage

Coverage is based on the National Curriculum 2014 PoS with objectives allocated across year groups, to ensure a progression of knowledge, skills and understanding. Each academic year five units are taught including online safety, which is also taught in every year group including EYFS. In addition, Online Safety is also taught through PSHE and threaded through the other units within computing to ensure that our children are digitally safe.



	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 1	Technology around us Recognising technology in school and using it responsibly.	Digital painting Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Moving a robot Writing short algorithms and programs for floor robots, and predicting program outcomes.	Grouping data Exploring object labels, then using them to sort and group objects by properties.	Digital writing Using a computer to create and format text, before comparing to writing non-digitally.	Programming animations Designing and programming the movement of a character on screen to tell stories.

Table shows Year 1 units

Computing Progression of skills

Within the Teach Computing Curriculum, every year group learns through units within the same four themes, (see table below).

Primary themes	Computing systems and networks	Programming	Data and information	Creating media
Taxonomy strands	Computer systems Computer networks	Programming Algorithms Design and development	Data and information	Creating media Design and development
	Effective use of tools			
	Impact of technology			
	Safety and security			

Teaching of Online Safety

We also teach Online Safety using a scheme (Project Evolve) for one discrete lesson at the beginning of every term. Project EVOLVE covers eight key areas, called "strands," to prepare your child for the digital world: In KS1 children will have one lesson from each of these themes:

Rules and responsibilities: an introduction to the key principles for staying safe whilst online.

Self-image and identity: Understanding how to present themselves online and the impact of their digital footprint.

Online relationships: Learning about appropriate online behaviour and communication with others.

Online reputation: Thinking carefully about how their online content may affect how others perceive them.

Health, wellbeing, and lifestyle: Developing healthy habits around technology use and understanding its impact on mental health.

Privacy and security: Learning to protect personal data and maintain online privacy.

In KS2 we continue with these strands but changing **Privacy and security** for **Online Bullying** which covers: Recognising and knowing how to respond to and report online bullying.



In addition, Online Safety is also threaded throughout the four core units. Online Safety is also taught through of RSE through the use of a scheme – Ten:Ten.

Computing Progression of Vocabulary

Vocabulary is paramount to the children's understanding and ability to articulate their learning. Our curriculum is designed to enable children to learn and master new vocabulary, as a large proportion of our pupils speak English as an additional language we have purposefully emphasised vocabulary which is then regularly revisited to ensure deep of understanding for all learners. It is, therefore, a key consideration in Computing planning. Key subject vocabulary is introduced at the appropriate time, building on prior knowledge.

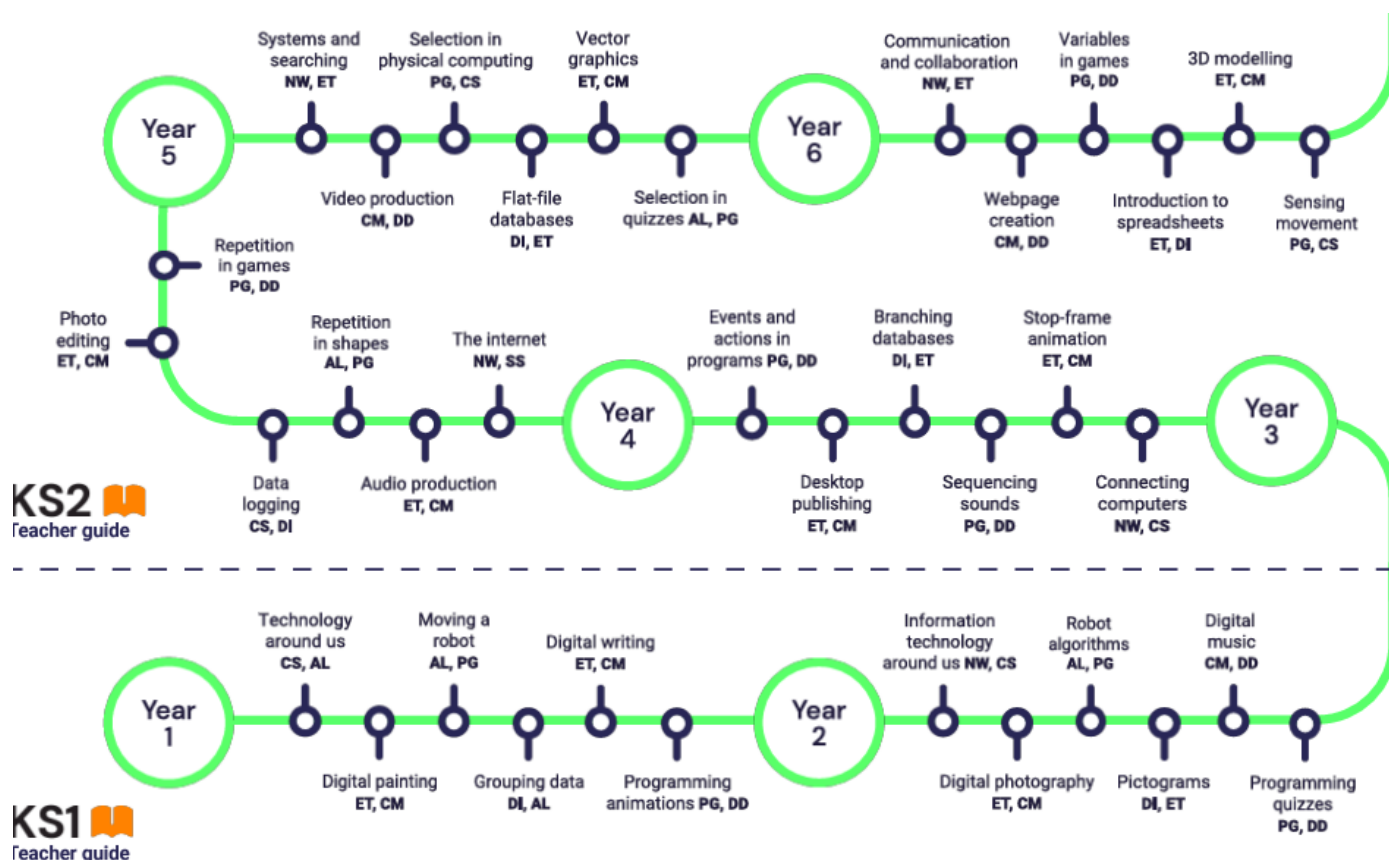
Table shows an example vocabulary work bank for KS1:

Vocabulary Work Bank KS1

Year 1		
Computing systems and networks - Technology around us	Creating media - Digital painting	Creating media - Digital writing
technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.
Data and information – Grouping	Programming A - Moving a robot	Programming B – Programming animations
object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same	Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.

Computing Planning

All planning is carefully crafted to ensure the very best outcome for all learners. We use a scheme: Teach Computing to assist us in breaking down the learning objectives into smaller, manageable WALTs (**We Are Learning To...**). The scheme is adapted by the teaching team to ensure it meets the needs of all learners. Planning for Computing is based on agreed progression of concepts, skills and vocabulary.



Learning Journey for Years 1 to 6

Supporting children with additional needs

We recognise that some pupils may require support in particular lessons or tasks. Support is planned for mindfully and tailored to the needs of each pupil. Teachers are flexible in their approach to planning support and intervention and recognise that specific SENs do not necessarily need support across the entirety of the curriculum.

Typical support in place within Computing includes: deliberate talk partner choices and seating arrangements, targeted questioning, oracy and reading opportunities, pre-teaching and display of key vocabulary and concepts, vocabulary word mats translated using Widgit, availability of manipulatives and wider resources e.g. Dyslexia friendly keyboards, coloured mice etc.



Where children are withdrawn from Computing for interventions within other subjects, we endeavour for them to be removed from different areas of the curriculum each time so they continue to receive their broad and balanced curriculum.



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Children requiring a number of interventions join a group called a 'high needs' group – pupil conferencing has taken place to ensure that these children are not removed from their favourite subjects wherever possible.

Planning to challenge in Computing and Online Safety

As a school, we have developed a working descriptor for Greater Depth learning which is used across the curriculum. Through teaching for mastery, all children are exposed to opportunities for greater depth thinking. A child who is learning at Greater Depth can consistently:

- Apply their learning to different contexts, identifying relationships within the subject and between other areas of the curriculum.
- Work independently, showing resilience.
- Apply their skills and knowledge consistently and fluently.
- Explain and reason using accurate vocabulary.
- Show curiosity and take responsibility for deepening their own learning by asking questions.
- Teach others what they have learnt in a sensitive and thoughtful way to enable them to learn too.

We recognise that a child will often show a particular gift or talent in specific subjects rather than across the whole curriculum and therefore in Computing we are specifically looking for children who do this within the knowledge, skills and understanding in Computing. It may be that a Greater Depth computer scientist receives support in other areas of the curriculum, for example and therefore in this subject can show greater confidence and will not require support. Greater Depth computer scientists are actively encouraged to apply for the post of Digital Leaders within our school.

Because we teach using the teaching for mastery approach, we expect all pupils to meet the objective to a greater or lesser extent (some will require support to do this), with all children being exposed to aspects of greater depth learning and some children able to prove they've learnt at greater depth about a specific objective.

How are staff skilled to teach in Computing and Online Safety

Whole staff training takes account of training in curriculum drivers such as metacognition, retrieval, growth mindset, vocabulary building, oracy, reading, teaching for mastery and how to support and challenge.

Training specific to Computing tends to be offered in response to staff needs and is based upon staff audits. It is delivered in groups or 1:1. Subject leadership time is given for this to take place.

Computing staff meeting time has been allocated and this is a chance for the subject leader to share their passion with others to inspire the staff team in Computing. Subject Leaders attend online presentations and meetings to ensure that their knowledge is up to date and responds to the needs of the school community.



Impact

Statement of Intended Impact and Monitoring of this:

As a school, we continuously reflect on the impact that our Computing curriculum has on our whole school community, in helping our children to know more and remember more as well as preparing them to be the best they can be as righteous global citizens.

To assess how a child's journey to becoming a computer scientist is progressing, we use a range of assessment methods to ensure the intended curriculum and the way it is implemented at St Gregory's is having an impact on their journey.

Our vision for Computing is that each and every child sees themselves as a computer scientist. At St Gregory's this means demonstrating computational thinking, being digitally literate and active participants in today's modern and rapidly changing digital world. To do this, we use our progression documents which consider what knowledge, skills, vocabulary and understanding a child should have at assessment points throughout their St Gregory's journey to becoming a computer scientist.

To reflect on the impact that the Computing curriculum is having on each child, we use both qualitative and quantitative means including:

- **Teachers evaluate children's knowledge**, understanding and learning characteristics through a range of informal and formal means. This informs the further implementation of the curriculum. Foundation subjects are formally assessed at the end of each unit against broad threads from the National Curriculum. These are input into our **in house tracker** as a broad judgement against the assessment points on the progression documents. This is detailed further in our [assessment, recording, reporting and tracking \(ARRT\) policy](#) and uses observations of practice, work in books, pupil conversations, low stakes testing to make judgements.
- **Data** in its widest sense forms the strategic direction of each subject. This is detailed in our [subject leader guidance](#) booklet. It helps us to identify areas of strength and areas for development within our subject curriculum and wider curriculum so that CPD can be put in place, support can be structured and gaps can be identified. This also allows for us to identify whether there are particular groups of pupils who have similar strengths and areas for development so that whole school practice can be altered in response to emerging trends and ensure that our curriculum offer continually meets the needs of our pupils.
- We strive for every child to see themselves as a computer scientist and be able to **talk** about the skills and knowledge they have that would help them in that role both now and in the future. They can make links with their learning both within the Computing curriculum and across the wider curriculum.
- Children are self-regulated learners who can talk about their strengths and weaknesses, and can motivate themselves to engage, and improve, their learning by using tools such as the learning pit, self and peer assessments, metacognition strategies. All of these help them to apply their learning both now and in their future lives to satisfy the ambitions that they have for themselves.
- Children are righteous citizens who have high ambitions for themselves, are economically active and give to society in a variety of ways. They value the gifts and talents that everyone



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brings to the diverse local and global community in which they live. They recognise ways that they can challenge social injustice and are empowered to do this both now and in the future.

Subject leader time is allocated to allow for this monitoring of impact to take place throughout the year. The school leadership team receive headlines and triangulate this with their own monitoring. Members of the governing board attend Key Area Team meetings to understand the implementation and impact of each subject within their KAT and annual formal monitoring by the Curriculum Committee takes place through a report and consequent pupil conferencing to triangulate the information they have received. This allows for the testing of impact and support and challenge about Computing at many levels.