Computing

Curriculum Intent:

The intention of our Computing Curriculum is to prepare our children for a rapidly changing world using technology. Our high-quality Computing Curriculum is designed to enable them to use computational thinking and creativity to further understand the world.

At the core of our Computing Curriculum 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, we intend for our children to use information technology to create programs, systems, and a range of content. We aim to ensure 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.

Curriculum Vision:

At St James, we strive to ensure our children become ready, respectful, and responsible users of information and communication technology, both now and in the future.

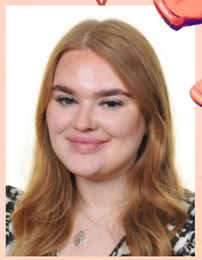
With many jobs of 2030 yet to be invented, our forward-thinking and thoughtfully planned Computing curriculum prepares pupils to thrive in a fast-paced, ever-changing technological world. It is well designed to develop computational thinking, creativity, and digital literacy, while also providing opportunities to extend pupils' vocabulary in meaningful and relevant contexts.

Our curriculum is inclusive by design, with careful adaptations made to support all learners, ensuring that every child is equipped to use computer technology confidently and make a positive impact on the world around them.

I have been the Computing Champion at St James for the past three years, a role I have thoroughly enjoyed. During my teacher training at university, Computing was one of the subjects I looked forward to the most.

Over the past three years, I have played an active role in designing and developing our Computing curriculum. I am always looking for innovative ways to integrate technology into the classroom and how I can support staff in using digital tools to enhance teaching and learning across the wider curriculum.

Computing Subject Champion-
Miss McDonald



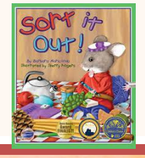
Curriculum Sequencing:

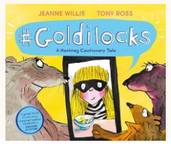
The delivery of our core Computing offer is split into four curriculum strands; Computer Systems and Networks, Creating Media, Data and Information and Programming. Utilising teaching resources from the government funded 'Teach Computing Curriculum' provided by the National Centre for Computing Education, all year groups study the same curriculum strand during the same term of the year. Strands are progressively taught through a knowledge enabled approach to provide children with the technical knowledge and skills to apply their understanding over time through both unplugged and computer-based lessons. Throughout the academic year, transferrable concepts are also applied and revisited within each lesson to develop deep computational thinking and creativity. At the end of the unit, a relevant assessment task is completed to provide an opportunity to apply their knowledge of the key skills taught to date. The transferable knowledge and concepts taught within our discrete Computing curriculum are also built upon and applied through other subject areas.

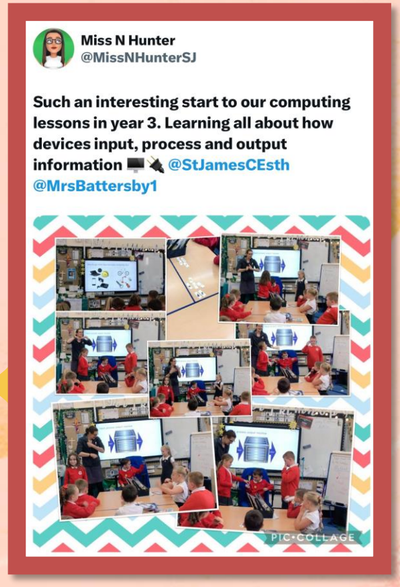
National Online Safety [NOS] is used to plan and teach online safety from EYFS to Y6 as part of our Safeguarding Curriculum. The eight units per Key Stage are taught once per half-term and are delivered during St James Spirit lessons. Links to online safety are also made within the Computing lesson sequence related to the guidance stated in 'Education for a Connected World'.

Joyful Readers:

In Computing, all year groups are taught the same strand at each point during the year. In our Computing curriculum, we develop *Joyful Readers* by fostering a love for reading within the context of digital learning. Our reading spines are deliberately linked to the key themes and skills within each strand. We recognise that reading in Computing is not limited to fiction or traditional texts—it also includes interpreting code, instructions, online content, and digital media. To nurture joy and curiosity, we embed reading in meaningful, relevant, and creative ways.







Curriculum Progression:

The delivery of our Computing curriculum is structured around four key strands, aligned with the National Curriculum Programmes of Study for Computing:

- **Computer Systems and Networks**
- **Creating Media**
- **Data and Information**
- **Programming**

Each strand is taught progressively across all year groups, with each cohort focusing on the same strand during the same term. This structured, knowledge-enabled approach ensures that pupils acquire and build upon the technical knowledge and skills they need, through a blend of unplugged and computer-based lessons that are embedded over time.

To pave the way for future learning, bespoke knowledge planners have been developed for each strand, carefully mapping prior knowledge and future content. Clear 'Computing Milestones' are outlined within detailed knowledge organisers, specifying the essential knowledge that all pupils must know and remember. This process also aims to extend pupils' language and vocabulary, particularly around technical terminology and subject-specific concepts.

Seven transferable concepts are woven throughout the academic year and revisited in every lesson, helping to deepen computational thinking and creativity. Teachers make effective use of the government-funded Teach Computing Curriculum, provided by the National Centre for Computing Education, to deliver high-quality content.

Our Journey Drivers in Computing:

Joyful Readers

Our reading spines are deliberately linked to the key themes and skills within each strand.

The use of our knowledge organisers also provide key vocabulary, concepts, and definitions

Opportunities to Build on Knowledge and Skills

Through our progressive curriculum, prior knowledge is built upon each year.

The use of our bespoke knowledge organisers encourages retrieval opportunities.

During each lesson, pupils will explore prior knowledge from the previous lesson, topic or even year group.

Understanding British and Christian Values

Christian Values
Perseverance.
Respect.
Endurance.

British Value:
Rule of Law.
Mutual Respect.
Individual Liberty.

Resilience and Perseverance

Open ended tasks promote perseverance.

Planned debugging scenarios used within Computing lessons to encourage the children of St James to become more resilient.

Nurturing Curiosity

Using different programs and websites to hook children into their learning.

Asking a question and allowing the children to follow investigations.

Including STEM opportunities in the classroom.

Trying to include technology across the curriculum.

Encourage Articulate Learners

Creating discussion time in the classroom so children can articulate their learning.

Allowing children to explain concepts and processes to peers and adults.

Whole class discussions to address misconceptions.

Insisting on key vocabulary being used during discussions.

Your Wellbeing and Health

Exploring the importance of safety online to protect ourselves and others (with clear links to St James Spirit).

Thinking about how social media can have an impact on mental health.

Discussing the ways we can use social media to promote positive wellbeing.

Inclusive Practice in Computing:

EYFS as the Bedrock of Learning:

Despite Computing not being explicitly mentioned within the updated Early Years Foundation Stage (EYFS) statutory framework, we believe there are many opportunities for young children to use technology to solve problems and produce creative outcomes (through the characteristics of effective learning). For this reason, we have created bespoke EYFS knowledge planners for Computing, aimed at providing the foundations for further study and National Curriculum coverage.

<u>Characteristics of Effective Learning.</u>

1.) Engagement – Playing and Exploring.
2.) Motivation – Active Learning.
3.) Thinking – Creative and Critical Thinking.

Strong Foundations:

While Computing is not explicitly mentioned in the Early Years Foundation Stage (EYFS) statutory framework, the foundations for computational thinking and digital literacy are very much present. The EYFS lays the groundwork for the Computing National Curriculum by developing the essential skills, knowledge, and behaviours that underpin later learning in Computing. The **'Strong Start' framework** in EYFS ensures children develop confidence, independence, and curiosity—all of which are critical dispositions for learning Computing. By encouraging exploration, problem-solving, and resilience from an early age, we are preparing children to engage meaningfully with the more structured strands of Computing in Key Stage 1 and beyond.

Meeting the needs of all learners:

Any children who need additional support within the less are supported using the 3Cs—coherence, context or concrete. Early interventions help pupils to catch-up and perform better across the curriculum

Following guidance from the EEF, our pupil premium children are targeted with the following enhancements to ensure that they "keep up with new content", as opposed to having to "catch up".

For those children with SEND, teachers use appropriate assessment to set targets which are deliberately ambitious for pupils identified as having a SEND and ensure needs are met as identified through their individual support plan. Lessons our planned to address potential areas of difficulty and to attempt to remove barriers to pupil achievement.

To ensure high-quality provision for pupils with SEND and to promote inclusive teaching practices, a curriculum adaptation document has been developed. This resource provides teachers with practical guidance on how to effectively adapt the Computing curriculum to meet the diverse needs of all learners.

Wider Curriculum Considerations in Computing:

Teaching Pedagogy:

Our bespoke four-part lesson for Computing at St James is similar in approach to a Maths No Problem lesson incorporating Rosenshine's Principles of Instruction of effective teaching.

Lesson Part:	Transferable Concept(s):
1. Exploration 	→ Exploring
2. Structured Discussion 	→ Problem solving and collaborating
3. Journaling 	→ Creating and applying
4. Reflection Time (Computational Thinking) 	→ Sharing and debugging

Developing Cultural Capital:

Cultural capital is the accumulation of knowledge, behaviours, and skills that a child can draw upon and which demonstrates their cultural awareness, knowledge and competence; it is one of the key ingredients a pupil will draw upon to be successful in society.

<u>Through our Computing Curriculum we build cultural capital with a focus upon:</u>

Application of our school rules when online through our online safety.

All children are provided with the opportunity to engage positively, critically and competently in the digital environment—thus enhancing digital citizenship.

Understanding of transferrable skills that can applied across all STEM subjects, preparing the children of St James for the jobs of today and tomorrow.

Staff CPD:

CPD programme completed and disseminated by Subject Champion through the Government funded 'Teach Computing Curriculum' provided by the National Centre for Computing Education. The Computing Subject Leader is also part of the LDST Computing Curriculum Network, supported by 'School Improvement Liverpool' with relevant curriculum updates and opportunities for resource collaboration. These updates are shared and regularly disseminated to teaching staff to ensure all staff are supported with their subject knowledge.

All members of staff are registered with National Online Safety and are regularly alerted to complete CPD accredited training. By accessing the NOS website, staff can also take part in dedicated Online Safety eLearning Hubs and utilise a wide range of free resources and lesson plans. In addition to this, staff receive Online Safeguarding Updates provided monthly.

Assessment:

Retrieval activities are incorporated into lessons to make discrete connections to prior learning and sequentially build the children's knowledge. Children are assessed throughout each topic, before completing an application of knowledge exit task, where teachers make a final judgement (emerging/expected/exceeding) which is recorded on Ask Eddi, in relation to the assessment statements. Each term, the subject leader then completes a report/capture sheet, including moderation of judgements.