School vision and values

Vision
We want ourselves and the children in our care to be successful, resilient and inquisitive learners who are happy and well-equipped to participate positively in the community and wider society.

Values
Our school values (kindness, respect, responsibility and aspiration) are an essential point of reference on all of our journeys. British values (democracy, rule of law, liberty and respect) play an equally important role.

Definition of Computing

Computing ensures that our children are digitally literate; able to use, express themselves and develop ideas through ICT as participants in the digital world and in the future workplace.

Pupils use ICT to use, create, explain, evaluate and develop digital content creatively and safely. ICT promotes initiative and independent learning, with pupils being able to make informed judgements about when and where to use ICT to its best effect.

Headline rationale for Computing

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. Buildings 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.

All children at St Margaret's Academy have the right to have deep, rich learning experiences that balance all the skills of computing. With technology playing such a significant role in today's society, we believe that **'computational thinking'** is a skill children must be taught if they are able to participate effectively and safely in this digital world.

At St-Margaret's the core of our computing is **'computer science'** in which pupils are introduced to a wide range of technology including laptops, iPads and interactive whiteboards allowing them to continually practise and improve the skills they learn. This ensures they become **'digitally literate'** so that they are able to express themselves and develop their ideas through information and computer technology- at a level suitable for the future workplace and as active participates in a digital world.

At St-Margaret's we teach a curriculum that enables children to become effective users of technology who can:

- Understand and apply the essential principles and concepts of Computer Science, including logic, algorithms and data representation;
- Analyse problems in computational term, and have repeated practical experience of writing computer programs in order to solve such problems;
- Evaluate and apply information technology analytically to solve problems;
- Communicate ideas well by utilising appliances and devices throughout all areas of the curriculum.

How the whole school 'curriculum statement' intents will be threaded through computing.

1. Underpinning everything is our work on attachment, and social and emotional learning which are integral to all that we do – *In computing we ensure children are using ICT safely and making appropriate choices. Have an understanding of what is real and how their choices online can affect others.*

2. Early reading and language development across the school are core aspects woven through the curriculum – *We recognise how technology can improve digital literacy and play a part in speech and language development.*

3. Teachers plan lessons that inspire and engage, and promote enquiry and imagination so that pupils at all abilities can achieve. We develop curiosity about the world beyond the bay. Progressive subject knowledge and skills are planned to take advantage of local opportunities such as the beach and local artists, as well as national events. We provide opportunities to contribute in the local and global community. – *Teachers plan the following: A cycle of lessons for computing, which follow the guidance on teachcomputing.org. These carefully plan for progression of skills and knowledge and have a variety of questioning which support learners' ability to build learning steps and increase space in the working memory; challenge questions for pupils to apply their knowledge in a philosophical/open manner. Where possible we use trips and visiting experts who will enhance the learning experience.*

4. We support our pupils to develop the skills they need in order to learn for themselves and to enjoy this learning – *We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible.*

5. We support our families and staff with their well-being – *collectables which outline 'sticky knowledge' (including vocabulary) that all children must master are produced when necessary. Online safety advice is frequently shared through letters and information evenings for parents.*

Our Computing curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be making good or better progress. In addition, we measure the impact of our curriculum through the following methods:

- Children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and date representation;
- Children can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems;
- Children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Children are responsible, competent, confident and creative users of information and communication technology.
- A celebration of learning is recorded in learning journals and class books for each term which demonstrates progression across the school.

The Computing Curriculum

Computing in Early years

Computing and technology are still vitally important subjects to deliver to Reception children. We want our children to enter Year 1 with a strong foundation of knowledge and will also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning.

In the Early Years, we use the resources from 'Barefoot Computing' based around computational thinking concepts and approaches.
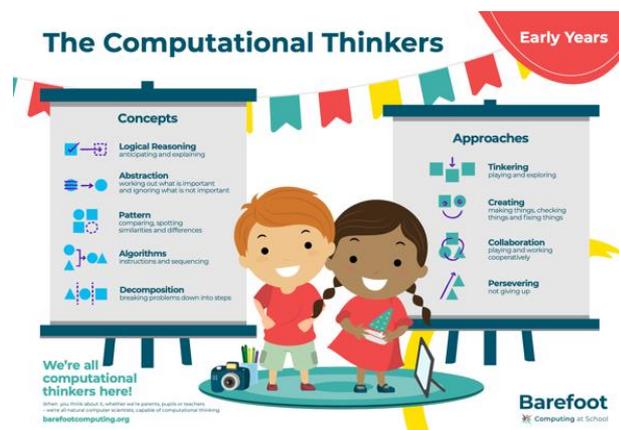
EYFS Computational Thinking simple definitions

EYFS Computational Thinking Skills	Simple definitions
Tinkering	Playing and exploring
Creating	Creating, checking and fixing things
Collaboration	Playing and working collaboratively
Persevering	Not giving up
Logic	Anticipating and explaining is logical reasoning
Pattern	Grouping things, comparing, spotting similarities and differences, working out rules
Abstraction	Naming and labelling, working out what is important, sticking to the main theme, ignoring what is not important, creating a summary
Algorithms and Decomposition	Responding to instructions, ordering things, sequencing things, introducing storylines, working out different ways to do things, breaking problems down into steps

See the Barefoot Computing Early Years overview here:

https://docs.google.com/document/d/1G7KmbweL0tlregWoPaQrUEOSfKPOrPxj/edit?usp=sharing&ouid=10
3627456378228735294&rtpof=true&sd=true

Computing in KS1 and KS2

In year 1-6, we follow the 'Teach Computing' programme of work.
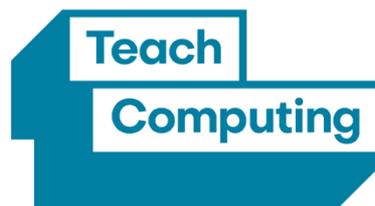
The Teach Computing curriculum is structured into units for each year group, and each unit is broken down into lessons. Units can generally be taught in any order, with the exception of programming, where concepts and skills rely on prior knowledge and experiences. Lessons must be taught in numerical order.

- Computer systems and networks
- Creating media
- Data and information
- Programming

There are 6 units of work for each year group as shown on Whole School Overview below:

	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
	Computer systems and networks	**Programming 1**	**Creating Media 1**	**Programming 2**	**Data and information**	**Creating Media 2**
1	Technology around us	Moving a Robot	Digital Painting	Introduction to animation	Grouping Data	Digital Writing
2	IT around us	Programming A: Robot algorithms	Creating Media- making music	Creating Media- Digital Photography	Data and Information: Pictograms	An introduction to quizzes
3	Connecting Computers	Sequence in music	Animation	Events and actions	Branching databases	Desktop Publishing
4	The Internet	Repetition in shapes	Audio Editing	Repetition in games	Data Logging	Photo Editing
5	Sharing Information	Selection in physical computing	Vector drawing	Selection in Quizzes	Flat File databases	Video Editing
6	Communication	Variables in games	3D modelling	Sensing	Spreadsheets	Web Page creation

Find the full progression documents here:
https://drive.google.com/drive/folders/1O1BofQTSOosGQdnBTDiFmBYoQLCkT3FW?usp=sharing

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Planning

Our curriculum is covered by the 'Teach Computing' resources online. Resources are available online for key stages 1 and 2, including lesson plans, slides, worksheets, homework and assessment these has been created by subject experts, based on the latest pedagogical research and teacher feedback. Teachers take and adapt this planning for their specific class.

Esafety

Our aim is to ensure children are educated about the benefits and risks of the online world as well as how to deal with any problems they come across. Our Online Safety Curriculum focuses on underpinning knowledge and behaviours that can help pupils to navigate the online world safely and confidently regardless of the device, platform or app.

For this, we use ProjectEVOLVE resources based on UKCIS framework "Education for a Connected World" (EFACW) that covers knowledge, skills, behaviours and attitudes across eight strands of our online lives from early years to year 6.

The eight strands are:
- Self-Image and Identity
- Online Relationships
- Online Reputation
- Online Bullying
- Managing Online Information
- Health, Well-being and Lifestyle
- Privacy and Security
- Copyright and Ownership

Self-Image and Identity

Online Relationships

Managing Online Information

Health, Well-being and Lifestyle

Online Reputation

Online Bullying

Privacy and Security

Copyright and Ownership
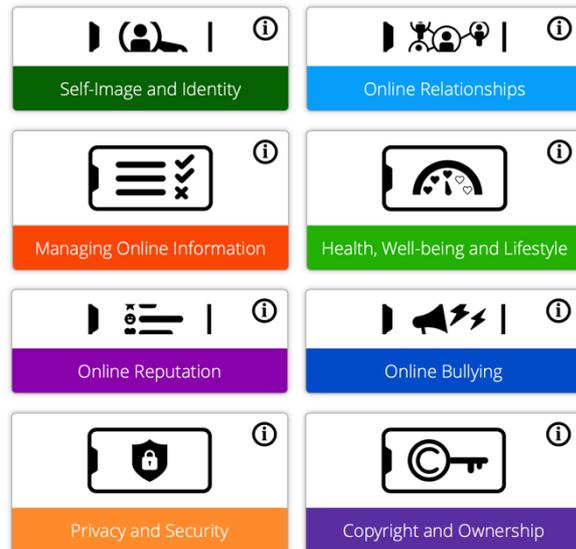
Find the Esafety framework here:
https://docs.google.com/document/d/139t9iWqsP5L5A9BfKIWwnBEaafB6XRcm/edit?usp=sharing&ouid=1 0362745637822873529 4&rtpof=true&sd=true

Assessment

Assessment is an integral part of the teaching and learning cycle and will be used as a tool to adjust teaching to meet the needs of each pupil. We encourage our children to enjoy and value the curriculum we deliver.
As a staff we constantly revisit the best ways to use computing and share this dialogue with the children so that they feel empowered to make the right choices about when to use technology.
Progress of our computing curriculum is demonstrated through outcomes and children's' knowledge. The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum. We look for evidence through reviewing pupil's knowledge and skills digitally using tools like Google Drive and ILD and observing learning regularly. We also use summative judgements at the end of each computing unit to monitor children's progress.

Computing across the curriculum

Teachers and children are encouraged to make choices to use ICT in the most appropriate way. We will constantly ask the WHY behind their learning and not just the HOW. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well- being. Where it is an enhancement to learning we use technology across the curriculum to both engage children and support learning.