



Subject Self Evaluation Form

Subject: Computing

School Context

- The socio-economic circumstances of the pupils are better than the average nationally although lower than the other schools in our local cluster.
- The proportion of pupils eligible for a free school meal is slightly below average (although in Year 6 - 2021-22 - we had 30 per cent of children eligible for PPG which is above national average). In addition, many families are on low incomes.
- The majority of parents are supportive but a significant minority have low aspirations and this has an impact on their support for their children's academic progress and on the extent to which they become involved in their children's learning. As a result of this, some of the pupil premium supports these families financially through clubs and educational visits.
- We have identified that 25% of our pupils have home lives that may negatively affect their school life and sometimes their ability to thrive (adverse childhood experiences). Significant work is completed to support these children through learning mentors and our school listening service as well as more recently employing a family engagement champion, who works with our most vulnerable children on improving attendance.
- A significant minority of our families live in the flats surrounding schools in overcrowded accommodation without access to a garden. We regularly support these families with food and clothes bank referrals as well as working with the local council to provide furniture or apply for more suitable housing.
- Unfortunately, we have had a high number of parents within our school community who have died or have been diagnosed with a life limiting condition. Within the last three years, we have had eleven children who have had a parent who has died. We have received support from charities like Winston's wish and our school educational psychologist.
- The largest ethnic groups are White British (75.98%) and any other white background (16%). Mixed White & Asian (1.44%), Mixed White & Black Caribbean (1.15%). Mixed White & Black African (0.92%), Mixed any other mixed background (2.07%). The percentage of children who are not white British has increased by 6.2% since last year. This school has 12 out of 17 possible ethnic groups. The average number of groups for this phase of education is identified as 9 so we like to celebrate our cultural diversity.
- Staff retention is very high. This means the shared vision and ethos is well-developed as staff have built this vision with staff team. Monitoring, evaluation and review has happened in a cycle where each subject has a deep dive on a rolling programme which has happened for the past 12 years so experienced subject leaders know their subject's strengths and areas for development well.
- School is part of a number of excellent partnerships including being a founder member of SAT so we benefit from excellent links to secondary education which has supported the development of our curriculum e.g. internship programme.

Baseline

Technology

94% EXS+ 28% GDS

Listening 72% EXS+ Listening 29% GDS

Speaking 67% EXS+ Speaking 17% GDS

Understanding 74% EXS+ Understanding 25% GDS

School vision

School Values

Our curriculum cannot be separated from our school's core values: be kind, be confident, be curious, be positive, be respectful and be resilient. These permeate all aspects of school life and underpin our school curriculum. Although these are directly taught within our curriculum they are also 'lived' throughout our school and effectively create the culture that allows our curriculum to be successful.

Curriculum Aims

Alongside our school values we have a set of aims for our school curriculum. These are the key threads that underpin and link our children's curriculum experiences together. We want children to: question; challenge themselves and each other; investigate the world around them; experience the world first hand; communicate effectively; and seek to develop their understanding of themselves, each other and the world around them. These aims were developed by and for the school community; parents, teachers, staff and governors collaborated to create our INSPIRE curriculum aims.



Intent

To equip pupils with the foundational skills, knowledge and understanding of computing that they will need for the rest of their lives and to be able to participate effectively in a rapidly developing digital world.

The computing aspect of our INSPIRE curriculum equips pupils to use computational thinking and creativity to understand and change the world. Our computing curriculum has deep links with mathematics, science and design and technology and provides insights into both natural and artificial systems. It aims to equip our pupils with the foundational skills, knowledge and understanding of computing that they will need for the rest of their lives and to be able to participate effectively in a rapidly developing digital world. More specifically, our computing curriculum 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; 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 and are responsible, competent, confident and creative users of information and communication technology.

To develop a love of computing by ensuring our curriculum enables children to develop a wide range of skills and knowledge through the provision of a wide range of high quality software (including internet services) and digital hardware.

We aim for our pupils to develop a love of computing by ensuring our curriculum enables children to develop a wide range of skills and knowledge through the provision of a wide range of high quality software (including internet services) and digital hardware.

To ensure that our children can understand and apply key aspects of online safety.

Our computing curriculum is designed with the national curriculum as a starting point but in addition it aims to ensure that our children can understand and apply key aspects of online safety.

Implementation

Computing long term plan

- Each year group will experience the areas of computing identified in the school's long term plan to ensure coverage of statutory knowledge and skills. These areas include computing systems and networks; digital literacy (comprised of 'core skills', multimedia and online safety) and programming.
- To equip children with the knowledge and skills related to online safety this strand has been divided into eight areas in line with the 2020 Education for a Connected World framework – self-image and identity; online relationships; online reputation; online bullying; managing online information; health, well-being and lifestyle and privacy and security.
- The school's computing progression of skills will be used to identify the learning objectives for each year group, in line with the school's raised expectations.

Cross-curricular learning and real-world contexts.

- Where possible, a cross-curricular opportunity will be taken to the teaching of computing. Computing knowledge and skills related to using search engines, websites and core digital literacy skills such as typing are often applied within other subjects for researching digital content (e.g. images or text) and using this to inform their learning.
- Cross-curricular links in the infant school include digital painting (art EYFS and Y1), digital photography (art Y2), digital sounds/music (music EYFS and Y2), pictograms (maths Y1), digital writing (English Y2).
- Cross-curricular links in the junior school include flat-file databases (maths Y4), image editing (art Y4), spreadsheets (maths Y5), webpage (English and science Y6), programmable buggies (DT Y6), vector drawings (art Y5), computing systems – collaborative project on space (science Y5).

A whole school commitment to Computing

- We have enhanced and widened the hardware that we have available to support teaching and learning. In the last five years we have established a computing suite, two laptop trollies, three class sets of i-pad trollies, new interactive boards, floor robots, a class set of Crumbles and a set of iPads for EYFS. The subject leader has worked closely with the IT manager and technicians to address and reduce technical issues over the last five years. The computing suite has moved into a much larger space with more room for pupils for the start of 2023-24.
- We received training from the local computing hub in 2022 to support the development of teacher subject knowledge around programming in order to further develop units of work.
- We received training on Crumbles in Spring 2022 from the local computing hub to develop our units of work around programming in Y4, 5 and 6 to provide more practical opportunities in Computing. Units of planning were developed in 2022-23.
- The 2 Johns' from EST E-Safety run workshops for children annually, deliver training to staff and workshops for parents, highlighting and raising awareness of the most current online dangers. The latest visit was in Summer 2023. This supports teachers to further understand children's ever-changing knowledge in terms of current online technology and content, its influence on their behavior and development and the skills they will need to be able to navigate it.
- A budget is allocated to computing every year with a dedicated team from SAT (Saffron Academy Trust), which includes a technician and network manager to ensure effective computing delivery is a priority.

Extra-Curricular activities

- In KS2 we have run coding clubs for children access, which complements the programming aspect of the curriculum.
- Online safety workshops (every two years) run by the 2Johns from EST Online safety.

Challenge and support for all learners

- We understand that every learner develops differently and adapt our provision continuously to ensure every child receives the correct balance of support and challenge in order to achieve their very best. We recognise this fact and provide suitable learning opportunities for all children (including those who may be gifted and talented or have additional needs) by matching the challenge of the task to the ability of the child. Each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability.

Impact

Computing	Y1	Y2	Y3	Y4	Y5	Y6	Year ending 2022/23	KS1 Average	KS2 Average
Total	60	60	60	60	61	78	Total	120	259

Foundation%	0	0	0	0	0	0	Foundation%	0	0
Working Towards%	10	8	3	8	5	1	Working Towards%	9	4
Expected + %	90	92	97	92	95	99	Expected + %	91	96
Higher Standard%	0	17	32	15	49	24	Higher Standard%	8	30

<u>Disadvantaged</u>							<u>Disadvantaged</u>		
Total	4	8	9	6	9	5	Total	12	29
Foundation%	0	0	0	0	0	0	Foundation%	0	0
Working Towards%	50	38	11	33	0	20	Working Towards%	44	16
Expected + %	50	63	89	67	100	80	Expected + %	56	84
Higher Standard%	0	13	11	0	22	20	Higher Standard%	6	13

<u>Not Disadvantaged</u>							<u>Not Disadvantaged</u>		
Total	56	52	51	54	52	73	Total	108	230
Foundation%	0	0	0	0	0	0	Foundation%	0	0
Working Towards%	7	4	2	6	6	0	Working Towards%	5	3
Expected + %	93	96	98	94	94	100	Expected + %	95	97
Higher Standard%	0	17	35	17	54	25	Higher Standard%	9	33

<u>SEN</u>							<u>SEN</u>		
Total	3	4	5	7	6	6	Total	7	24
Foundation%	0	0	0	0	0	0	Foundation%		
Working Towards%	100	50	40	43	33	0	Working Towards%	75	29
Expected + %	0	50	60	57	67	100	Expected + %	25	71
Higher Standard%	0	0	0	0	17	0	Higher Standard%		4

<u>Not SEN</u>							<u>Not SEN</u>		
Total	57	56	55	53	55	72	Total	113	235
Foundation%	0	0	0	0	0	0	Foundation%		
Working Towards%	5	5	0	4	2	1	Working Towards%	5	2

Expected + %	95	95	100	96	98	99	Expected + %	95	98
Higher Standard%		18	35	17	53	26	Higher Standard%	9	33

<u>EAL</u>							<u>EAL</u>		
Total	8	11	7	10	10	15	Total	19	42
Foundation%	0	0	0	0	0	0	Foundation%		
Working Towards%	13	9	0	10	0	0	Working Towards%	11	3
Expected + %	88	91	100	90	100	100	Expected + %	89	98
Higher Standard%	0	27	29	10	40	27	Higher Standard%	14	26

<u>Not EAL</u>							<u>Not EAL</u>		
Total	52	49	53	50	51	63	Total	101	217
Foundation%	0	0	0	0	0	0	Foundation%	0	0
Working Towards%	10	8	4	8	6	2	Working Towards%	9	5
Expected + %	90	92	96	92	94	98	Expected + %	91	95
Higher Standard%	0	14	32	16	51	24	Higher Standard%	7	31

<u>Boys</u>							<u>Boys</u>		
Total	29	32	20	29	28	40	Total	61	117
Foundation%	0	0	0	0	0	0	Foundation%	0	0
Working Towards%	17	6	5	7	7	0	Working Towards%	12	5
Expected + %	83	94	95	93	93	100	Expected + %	88	95
Higher Standard%	0	22	40	14	57	38	Higher Standard%	11	37

<u>Girls</u>							<u>Girls</u>		
Total	31	28	40	31	33	38	Total	59	142
Foundation%	0	0	0	0	0	0	Foundation%	0	0
Working Towards%	3	11	3	10	3	3	Working Towards%	7	4
Expected + %	97	89	98	90	97	97	Expected + %	93	96
Higher Standard%		11	28	16	42	11	Higher Standard%	5	24

2023-2024 - Autumn term data 2023

	Y1	Y2	Y3	Y4	Y5	Y6
Expected +%	93%	93%	92%	93%	97%	95%
Higher Standard	13%	18%	21%	35%	33%	47%

Headlines

- There is a consistent percentage of children achieving the expected standard (90%+) in each year groups. Children attaining the expected standard at the end of KS1 and KS2 is well above average in computing (KS1 – 92% and KS2 – 99%). These results were similar to the previous academic year 2021-22 (KS1 – 98%, KS2 – 93%).
- The percentage of children achieving the higher standard is typically lower in KS1 (8% average) then KS2 (30% average). The data shows that as children move through the school the percentage of children achieving a higher standard typically increases as their skills and knowledge develop.
- Children attaining the higher standard at the end of KS1 was 17% and in KS2 24%. These results were similar to the previous academic year 2021-22 in KS1 (16%) and a slight dip in KS2 (33%)
- Pupil questionnaires and pupil interviews suggest computing is one of the most popular subjects and children enjoy programming and the opportunities to be creative.
- Learning observations and book scrutiny show an excellent level of attainment and progress in computing learning.

Disadvantaged

- Disadvantaged children are less successful at computing than non-disadvantaged pupils but the gap closes in KS2. This is less significant in Y5 (now Y6) and Y3 (now Y4).

SEND

- Although attainment for SEND is not as high as non-SEND pupils, a significant number of SEND pupils are working at expected or above in KS2 (75%) and KS2 (71%). Fewer pupils attained expected in KS1 this year (25%) than last year (75%) however the sample size is small (7 children). All 6 SEN pupils in Y6 reached the expected standard.

EAL

- EAL children are as successful at computing as non-EAL pupils in all year groups both for attaining expected and the higher standard.

Girls and Boys

- The percentage of boys and girls working at expected or above in each year group is similar across all year groups. The percentage of boys working at a higher standard is slightly higher than for girls in most year groups. This particular pattern was evident last year in KS1 only.

Significant developments in the subject

- From January 2023, we have been sending out monthly online newsletters and adding them to our website. They provide parents with current online safety information and guidance.
- We have updated the online safety section of our website. Signposts to particular websites have been improved and information on the 4Cs has been added (content, contact, conduct and commerce).
- Our online safety policy has been significantly updated, ensuring that it is in line with Keep Children Safe In Education (September 2022), 'Teaching Online Safety in School guidance' (January 2023) and 'Behaviour in Schools advice' (September 2022)
- A new progressive Online Safety scheme of work was developed and implemented in 2019 and developed further in 2020, utilising content from Education For A Connected World to improve the depth and breadth of planning and teaching of Online Safety, resulting in clearer progression of knowledge and skills each year against eight categories of online safety and content that is relevant to children's needs today.
- Annual online safety workshops with the 2Johns for parents, teachers and children in Y1-6.
- Following actions points from our safeguarding audit and book monitoring, the computing subject leader is working with teachers individually in Autumn 2023 to support teachers to develop their planning using materials from Project Evolve (a site which supports planning and activities link to the Education for a Connected World Framework) and to develop consistency in messages delivered to children to increase teachers' credibility about their knowledge and understanding of children's online activities from the children's point of view.
- The current computing progression was developed by the Computing Subject Leader (Autumn 2020 launch) and further embedded in 2021/22 following lockdowns. It provides greater clarity on the explicit skills that need teaching and utilises quality software and hardware, including newly purchased ipads and Crumbles. Subject leader supporting year groups with planning and resourcing.
- Engagement with the local computing hub. All teaching staff have participated in a Programming and Algorithms course and Crumbles training (now successfully being used to build physical computing into Y5 and Y6) – 2021/22.
- Significant investment in hardware over the last five years (see above).
- Training and materials have been delivered to teachers signposting them to high quality resources and planning, largely drawing upon the new DfE funded resources available on teachcomputing.org (The National Centre for Computing Education). The Subject Leader has ensured that all software and hardware (e.g. new floor robots, Scratch 3, Crumbles, various apps) are available to deliver the units and is supporting staff to plan and deliver the units.

- Computing vocabulary progression developed (Summer 2021) establishing specific Tier 3 vocabulary to be taught in each year group.
- Floor books are being successfully used in EYFS and Y1 to capture evidence of computing.
- Early years milestones incorporated into subject progression document.
- There has been significant and ongoing improvement in learning being evidenced in pupil books over the last two years.

Strengths

- Significant investment in hardware to support delivery of the curriculum over the last five years. This has significantly improved reliability issues that had previously affected teaching and learning and enables teachers to deliver a varied and engaging computing curriculum,
 - Computing suite installed in Spring 2021 (32 desktops) and moved to a larger class space in Summer 2023
 - 3 sets of class ipads (96 ipads) and set of 7 EYFS ipads
 - 7 additional ipads allocated 1:1 to SEN and EAL pupils
 - 6 new floor robots
 - 32 Crumbles and accessories
 - 32 laptops
- The 'online safety' element of the computing progressions covers a wide range of knowledge and skills, is relevant to children's needs today and has clear progression drawing upon the Education for a Connected World Framework.
- Clear, evidenced progression in programming (see progression document created in September 2023).
- As a MAT we employ our own trust network manager and technician. Computing subject leader liaises effectively with IT manager and technician from SWCHS to ensure best possible support onsite and offsite and to work on larger projects (e.g. installation of suite, setting up ipads, wifi upgrade). The level of support we now receive has significantly improved this year.
- Training and materials have been delivered to teachers signposting them to high quality resources and planning, largely drawing upon the new DfE funded resources available on [teachcomputing.org](https://www.teachcomputing.org) (The National Centre for Computing Education). The Subject Leader has ensured that all software and hardware are available to deliver the units and has supported staff to plan and deliver improved units of work this year.
- Computing subject leader is working with the Computing Hub, headed up by the local feeder secondary school and we draw upon the expertise of computing specialists, including training and support with developing planning.
- Pupil perception surveys show that computing is consistently a popular subject amongst pupils scoring 81, 82 and 83 out of 100 for enjoyment over the last three years – It is one of the most enjoyed subjects. Children have particularly commented on enjoying producing digital images, coding and creating websites in Y6..
- The use of floor books in Year 1 over the last two years is highly effective in demonstrating evidence of learning and to support learning in Computing.
- Strong cross-curricular links.
- EAL pupils are attaining as well as non-EAL pupils in computing.

Areas for development

- To continue to liaise with and manage the IT support team to address issues thoroughly and in a timely fashion and to ensure that hardware and software consistently works effectively. This has significantly improved in the last year.
- To develop consistency and a clear strategy for pupils to save their work in order to evidence and reflect back on learning, particularly in programming on Scratch in Y3-6.
- To continue to develop teacher expertise in computing through training, courses and other opportunities provided by the Computing Hub.
- To embed the computing vocabulary progression and to support teaching staff by producing a guide with definitions.
- To work with the SAT IT manager and other schools in the trust to develop our systems for filtering and monitoring.
- To develop further enrichment opportunities in Computing (use the hub to support).

- To develop consistency in messages delivered to children to increase teachers' credibility about their knowledge and understanding of children's online activities from the children's point of view.
- To explore, understand and act upon the variability across year groups in the percentage of children achieving the higher standard.

Monitoring and evaluation systems

At Katherine Semar we believe that the most effective way to monitor the impact of our Computing policy is to utilise and triangulate a broad range of moderating activities, involve our stakeholders, and apply these regularly, consistently and robustly. Through our annual Monitoring, Evaluation and Review cycle, we employ the following monitoring activities in Computing:

- **Lesson Observations and Learning Walks**
 - Senior Leaders and Subject Co-ordinators regularly undertake planned and unplanned lesson observations and learning walks. These have a clear focus and feedback and findings are used to inform individual and whole-school Continuing Professional Development (CPD), School Development Planning and future monitoring activities.
- **Internal Assessments**

In line with the school's assessment policy, each year group undertakes a range of internal and external assessments as appropriate to their age and stage of development. Data from these assessments is used to inform planning, teaching, interventions, and adult support to ensure all children are making maximum progress.
- **MAPP (Mapping attainment and progress for pupils)**

We use MAPP to assess children's progress against the expectations of our INSPIRE curriculum. We assess children against both the requirements and standards of the National Curriculum as well as our school's own raised expectations for all children. This is analysed annually and used to inform our school development plan.
- **Work Scrutinies**
 - Work scrutinies are carried out by subject coordinators, Senior Leadership Team and whole staff.
- **Pupil Conferences**
 - Every child from Year Three to Six has an individual pupil conference each term which supports children to take ownership of their own learning, review their progress and set themselves development targets.
- **Governor Visits**
 - As part of the Governors' Monitoring, Evaluation and Review cycle, lead governors in each subject, make regular visits to school to monitor progress towards the school development plan.
 - Monitoring activities include a range of teaching and learning observations, discussions with subject co-ordinators, meetings with pupils, visits to subject specific celebration assemblies, work scrutinies and subject leader reports.
- **Pupil interviews**
 - Senior staff, subject co-ordinators and governors take regular opportunities to listen to the views of pupils in relation to their experience of Computing at our school and their feedback actively informs subject development through our curriculum action plan.
- **Planning Scrutiny**
 - Planning scrutinies are carried out by subject coordinators and Senior Leadership Team.

SMSC

Spiritual

- Wondering at the speed and complexity of developments in computing.
- Enjoying the quality of work that they can produce.
- Being challenged by the changing demands of new technology.
- Exercising creativity in response to information gathering, data handling, simulations, and presentations.
- For many pupils computing has the capacity to capture imagination.

Moral

- Considering the consequence of misuse.
- Evaluate the uses of computer for both good and evil e.g. violent games, pornography, chat rooms, attitudes to the environment.
- Looking at issues around freedom and privacy.

Cultural

- Learning to express themselves clearly and communicate effectively.
- Working co-operatively e.g. working on a shared document.
- Considering the impact, good and bad, of computing on society.
- Examining gender bias in computing materials and attitudes.
- Reflect on the way using a computer can either isolate people from one another or bring people together e.g. Internet.
- Using data handling skills to promote understanding of social issues.

Social

- Finding out about the world from information resources e.g. websites, blogs.
- Communicating with each other using online technology or collaborating on a project (e.g. a shared document).
- Discussing how information arises out of a cultural context e.g. how the presentation of a site on the World Wide Web reflects the culture of its creators.

Training

- Espresso (20.2.18)
- Ipad training (1.5.18)
- Valuing Vocabulary - BMc (6.6.18)
- Online Safety (10.7.18)
- Online Safety (8.1.19)
- Computing Scheme of Work (25.6.19)
- The Computing Subject Leader and Headteacher attended a course led by EST E-Safety highlighting (20.9.19) the most current online dangers faced by primary aged children today, including apps and games.
- Data Logger training (1.10.19)
- Knowledge Organisers (8.10.19)
- Vocabulary (17.10.19)
- Foundation Subjects – Attainment / Subject Leader Update (3.12.19)
- Subject Leadership (14.1.20)
- Subject Leadership (14.2.20)
- Crumble training (attended by CD) – led by Computing teacher at SWCHs (February 2020)
- Scratch and Barefoot training (26.2.20)

- Vocabulary (4.3.20)
- Subject Leader SEFs and interviews (2.3.20)
- Computing governor visit – remote (9.3.20)
- Subject leadership and Ofsted (10.6.21)
- Online Safety update (1.9.21)
- Primary programming and algorithms pt1 – Peter Gaynord (23.9.21)
- Primary programming and algorithms pt2 – Peter Gaynord (7.10.21)
- Crumbles training – Peter Gaynord (22.2.22)
- Online safety training (staff) and pupil and parent workshops – EST E-Safety – the 2Johns (14.6.22)
- SAT Computing subject conference (8.11.22)
- SAT Computing subject conference (30.3.23)
- Online safety training (staff) and pupil and parent workshops – EST E-Safety – the 2Johns (15.6.23)
- Online safety training/meeting – 1:1 with the subject leader and teachers responsible for planning in Y1-6 (14.9.23)
- Katherine Semar Computing Spotlight (5.10.23)

Enrichment

- Specific apps (e.g. Google Earth, TT Rockstars) are used to on ipads support learning in other subjects as well as computing. They are also used for research and to take photos and videos to provide feedback (e.g. recording and reviewing dance in PE).
- Y6 take part in a workshop in Duxford where they produce and record a World War II news report – related to the exhibits - on ipods.
- Y6 experience going on and controlling a VR WWI flight simulator as part of a WW1 experience day (second year).
- Crumbles have been purchased to build physical computing opportunities into Science and DT in Y4, 5 and 6.
- The 2Johns from EST E-Safety run online safety workshops for pupils, parents and teachers every two years (the most recent being June 2022).