

Computing at St Cleopas



Our School Vision is inspired by this bible verse:

John 13:34 “As I have loved you, so you must love one another, then everyone will know that you are my disciples”.

St Cleopas is an inclusive community that nurtures and develops opportunities for lifelong learning on our journey walking alongside Jesus, opening our eyes and hearts to all.

Our School Values: At St Cleopas, we aim to develop all pupils so that they achieve and succeed. This happens in a caring, welcoming and loving environment based firmly on our Christian values:

Friendship – Respect – Joy – Compassion – Forgiveness – Courage

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What Computing at St Cleopas looks like

Our Vision and Values

As a Church of England School; our vision and values are at the heart of everything we do and play a vital part in our pupils' education, spiritual, moral, social, and cultural development.

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At St Cleopas, we aim to develop all pupils so that they achieve and succeed. This happens in a caring, welcoming and loving environment based firmly on our Christian values:

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At St Cleopas Church of England Primary School, Computing Education holds a significant role within our curriculum. We believe that high-quality Computing education deeply influences our students' understanding and skills. Through both dedicated Computing lessons and integrated activities across subjects, we aim to equip our students with essential digital literacy and computational thinking skills.

Our comprehensive curriculum covers a wide range of concepts and skills, ensuring our students are well-prepared for the digital age. As an inclusive school, we promote tolerance and celebrate diversity in our Computing education. Our students learn to respect and appreciate different perspectives, fostering a sense of community and understanding.

Through hands-on activities and projects, students have the opportunity to explore and engage with technology in meaningful ways. We encourage creative problem-solving and critical thinking, allowing students to develop essential skills for their future.

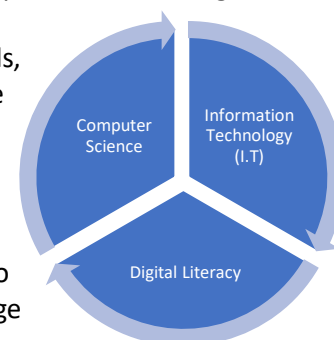
We leverage our strong partnerships with industry experts and technology organisations, such as BBC Micro:bit and Purple Mash, to enhance our delivery of the computing curriculum.

Regular participation in computing events (such as Safer Internet Day) and competitions (Purple Mash) further enhances our students' learning experiences. We actively support community events and provide opportunities for students to showcase their computational skills and projects.

Overall, Computing education at St Cleopas Church of England Primary School plays a vital role in preparing our students for the digital world, fostering creativity, critical thinking, and responsible digital citizenship.

Integrating Christian Values into Our Computing Curriculum:

Friendship and Collaboration:



Key strands of Computing Curriculum (as set out by the National Curriculum 2014)

- Foster collaborative projects in coding and digital media that require teamwork, reflecting the value of friendship.
- Encourage peer mentoring (through Digital Leaders) and support in technology tasks to build strong, positive relationships.

Respect and Digital Etiquette:

- Teach students about online safety, digital footprints, and respectful communication, ensuring they understand the importance of treating others with dignity in digital spaces.
- Promote respect for others' work and ideas during collaborative projects.

Joy in Learning and Creativity:

- Foster a love for learning by encouraging creative expression through digital storytelling, animation, and coding projects.
- Celebrate successes and creativity in technology, helping students find joy in their achievements.

Compassion and Empathy:

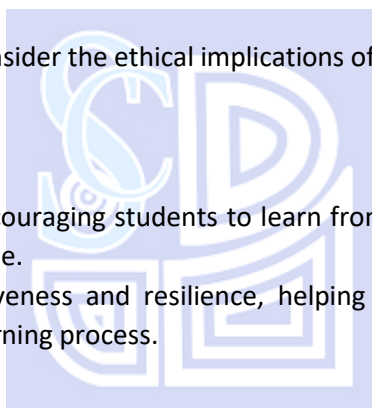
- Use technology to create projects that address social issues, promoting empathy and a desire to help others.
- Encourage students to consider the ethical implications of technology and how it can be used to benefit society.

Forgiveness and Growth Mindset:

- Promote resilience by encouraging students to learn from mistakes and persist in problem-solving and debugging code.
- Teach the value of forgiveness and resilience, helping students understand that making mistakes is part of the learning process.

Courage and Innovation:

- Encourage students to take risks and experiment with new technologies, fostering confidence in their ability to overcome challenges.
- Cultivate a culture of innovation where students feel empowered to pursue new ideas and solutions.



Computing - Intent, Impact and Implementation

Intent

The intent of our Computing curriculum is to equip our pupils with the necessary skills and knowledge to thrive in an increasingly digital world. We aim to provide a broad and balanced Computing education that fosters creativity, resilience, problem-solving abilities, and critical thinking skills. Our curriculum is designed to not only teach pupils how to use technology effectively but also to understand the principles underpinning computational thinking and digital literacy.

We believe that Computing plays a vital role in enhancing children's learning experiences and supporting their academic progress across all subjects. By integrating Computing into our wider curriculum, we aim to instil a love for technology and empower our pupils to become responsible digital citizens who can harness the power of technology ethically and safely.

As a result of an excellent Computing curriculum we want our children to:

- Understand technology as a powerful tool for global connection and innovation.
- Grasp the foundational principles of computational thinking and digital literacy.
- Become Courageous Innovators, making reasoned and well-informed decisions about technological and ethical issues.
- Positively engage with technology to make a positive impact on their friends, families, and the local and wider communities.
- Have an understanding and respect for the diverse ways in which technology influences people's lives, deepening their understanding of the world and their own experience within it.
- Leave school as well-rounded individuals with respect and appreciation for technology, its potential, and its impact on their own and others' beliefs, morals, and cultures.

We want children to engage with the living faith of our school and understand how religious faith can provide a vision for both their spiritual and personal lives. By strengthening an understanding of our Christian values (*Friendship – Respect – Joy – Compassion – Forgiveness – Courage*), we will empower children to make positive choices and develop themselves as unique and significant individuals in our world. By integrating our Christian values into the Computing curriculum, we provide students with a vision for how their faith can guide their personal and digital lives. This approach not only enhances their technical abilities but also empowers them to make positive choices and develop into unique and significant individuals who contribute meaningfully to the digital world.

Implementation

Our computing provision is founded upon a well-structured and meticulously sequenced curriculum that comprehensively covers the spectrum of computing concepts, including computer science, information technology, and digital literacy. This curriculum is implemented with careful planning by our teachers, utilizing the curriculum provided by 2Simple's Purple Mash and supported by the National Curriculum 2014.

To ensure that every pupil has access to top-tier resources, including hardware, software, and online platforms, we dedicate ourselves to providing high-quality tools to support their learning and exploration of Computing. Additionally, our teachers undergo regular training and receive ongoing

support to enrich their subject knowledge and pedagogical skills, enabling them to deliver Computing lessons effectively.

We advocate for a hands-on, experiential approach to learning, offering pupils ample opportunities to engage in practical activities such as coding and multimedia projects. Furthermore, we prioritize the creation of a safe and respectful online environment through robust online safety education, which is integrated into both computing and PSHE lessons. This comprehensive education equips pupils with the knowledge of online etiquette, privacy, and security, fostering a culture of digital responsibility among our students.

As part of our approach, children save their work in individual Purple Mash folders or on the 'Student Share' Drive, depending on the software used. For Early Years Foundation Stage (EYFS) observations, we utilise Tapestry. Throughout their learning journey, children are provided with opportunities to work independently and collaboratively, thereby enhancing their computing skills. Each unit of study clearly outlines the knowledge and skills that children are expected to acquire, accompanied by specific key vocabulary.

In addition to weekly computing lessons, computing activities are seamlessly integrated across the curriculum, enhancing learning experiences in various subjects. Our computing curriculum is meticulously tailored to suit the needs of our children, with concepts continuously revisited and built upon to foster a deeper understanding of key computing principles.

Impact

The influence of our Computing provision at St Cleopas Church of England Primary Academy is significant, evident in the accomplishments and outlook of our students. Through regular formative assessment and tracking of progress, we ensure that every child is making meaningful strides in their Computing skills development. Our pupils exhibit confidence and competence in utilizing a variety of digital tools and technologies to articulate their thoughts, tackle challenges, and communicate effectively.

Moreover, our robust Computing curriculum cultivates broader cognitive abilities in our pupils, including logical reasoning, analytical thinking, and computational skills, which transcend beyond the realm of Computing and find application in other subjects and real-life contexts. Encouraged by engaging Computing experiences, our pupils display curiosity, resilience, and creativity, embracing challenges with a growth mindset and a spirit of innovation.

To monitor the impact of our curriculum, we conduct deep dives, engage in pupil voice exercises, scrutinize student work, and conduct teaching and learning observations. Through these measures, we continually refine and enhance our Computing provision to empower our pupils as responsible, resourceful, and digitally literate citizens of the future.

In addition, children:

- are inspired by the Computing curriculum and demonstrate a strong desire to learn more.

- Show progression in their skills of understanding computational concepts, assessing the impact of technology, and making connections across different areas of learning.
- Can discuss their learning experiences and recall what they have learned.
- Identify various computing concepts, place them within the context of technological development, and articulate the significance of each concept.
- Talk about the key principles of computational thinking and digital literacy as outlined in the National Curriculum.

Overall, our Computing provision embodies the ethos of our school motto, "Live, Laugh, Learn," by fostering an environment where pupils thrive, explore, and excel. By nurturing a culture of continuous improvement, our aim is to ensure that the majority of children in each year group are working at or above the expected level for their age.

Computing Policy

This policy sets out St Cleopas Church of England Primary School's aims and strategies for the successful delivery of Computing. This policy should be read in conjunction with other relevant school policies such as the Safeguarding, Equal Opportunities, Curriculum, Teaching & Learning, SEND and Assessment policies. The policy has been developed by the Computing Lead - Miss Kavanagh - in consultation with the SENDCO, Leadership Team and teachers. Guidance from consultants and pupil, parent and staff voice questionnaires have shaped and will continue to help shape this policy. This policy is based on government recommended/statutory programmes of study. Due to the fast pace of technology innovation and constantly emerging trends, it is recommended that this policy is reviewed, at minimum, at the start of every academic cycle.

1. Aims and Objectives

At St Cleopas Primary Academy, we aim to develop all pupils so that they achieve and succeed. In Computing, we aim for our children to be provided with the skills, creativity, and enthusiasm to live and thrive in a world increasingly dependent on computing. We understand the immense value technology plays not only in supporting the Computing and whole school curriculum but overall in the day-to-day life of our school. We believe that technology can provide: enhanced collaborative learning opportunities; better engagement of pupils; easier access to rich content; support conceptual understanding of new concepts and can support the needs of all our pupils.

Our objectives in the teaching of Computing. are, for all of our children:

- Provide an exciting, rich, relevant and challenging Computing curriculum for all pupils
- Enthuse and equip children with the capability to use technology throughout their lives
- Give children access to a variety of high-quality hardware, software and unplugged resources
- Instil critical thinking, reflective learning and a 'can do' attitude for all our pupils, particularly when engaging with technology and its associated resources.
- Teach pupils to become responsible, respectful and competent users of data, information and communication technology.
- Teach pupils to understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared and manipulated.

- Equip pupils with skills, strategies and knowledge that will enable them to reap the benefits of the online world, whilst being able to minimise risk to themselves or others.
- Use technology imaginatively and creatively to inspire and engage all pupils
- Provide technology solutions for forging better home and school links (through Tapestry, Class Dojo, etc)
- Utilise computational thinking beyond the Computing curriculum
- Exceed the minimum government recommended/statutory guidance for programmes of study for Computing and other related legislative guidance (online safety).

The National Curriculum for Computing aims to ensure that all pupils:

- can understand and apply the fundamental principles of Computer Science, including logic, algorithms, data representation, and communication;
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems;
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- are responsible, competent, confident and creative users of Information and Communication Technology.

At St Cleopas, our Computing curriculum significantly contributes to pupils' Spiritual, Moral, Social, and Cultural development. Specifically:

- **Moral development** is fostered through lessons on digital citizenship and online safety, providing a secure foundation for pupils to make ethical decisions in the digital world.
- **Social development** is enhanced through collaborative projects and teamwork in Computing, reflecting the values of living in a supportive and inclusive community.
- **Cultural development** offers opportunities for pupils to understand the global and multicultural impact of technology, recognising its role in diverse societies and cultures worldwide.

2 Safeguarding: Online Safety

Online safety has a high profile at St Cleopas for all stakeholders. We ensure this profile is maintained and that pupil needs are met by the following:

- A relevant up-to-date online safety curriculum which is progressive from Early Years to the end of Year 6 (overlaps with [Computing](#) and [PSHE Curriculums](#))
- Through our home/school links and communication channels, parents are kept up to date with relevant online safety matters, policies and agreements. They know who to contact at school if they have concerns.
- Data policies which stipulate how we keep confidential information secure. A curriculum that is threaded throughout other curriculums and embedded in the day-to-day lives of our pupils.
- Pupils, staff and parents have [Acceptable Use Policies](#) which are signed and copies freely available.
- Training for staff and governors which is relevant to their needs and ultimately positively impacts on the pupils.

- Our [Online Safety Policy](#) (part of our safeguarding policy) clearly states how monitoring of online safety is undertaken and any incidents/infringements to it are dealt with.
- Scheduled pupil voice sessions and learning walks steer changes and inform training needs.
- Filtering and monitoring systems for all our online access.

3. SEND and Inclusion

At St Cleopas, we aim to enable all children to achieve to their full potential through our curriculum. Computing forms part of the school's curriculum policy to provide a relevant, broad and balanced education to all children. Through our Computing teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Special Educational Needs and Disability, English as an Additional Language (EAL), and Inclusion Policies.

4. Assessment

It is usual for any person embarking upon a journey to have a map. Across all of our curriculum units at St Cleopas, children use a concept map to record their learning and discoveries as they journey through. In Computing, this is available through the Purple Mash software. Within Key Stage 1, this is completed as a class by the class teacher. In Key Stage 2, children will complete this independently after being set this as a '2Do' by the class teacher. This question and concept map is a key tool for assessment, linking lesson content, questions and outcomes within units. They provide strong evidence of knowledge and understanding of prior knowledge, allowing children to reflect on previously taught content and make connections and comparisons. It also serves as a post-assessment task, clearly showing the progress in knowledge and skills gained across a taught unit.

Teachers assess learning in Computing at the end of each unit against the [Purple Mash Assessment Guidance](#) for each individual year group and topic. This is intended primarily to contribute to planning excellent tasks at the right level appropriate for the pupils' experience, knowledge and ability. If the right tasks are set then the outcomes will be achieved. There are no specific assessment tasks as every task, potentially, can be assessed and contribute to the expected achievements.

- Teachers keep accurate records of pupil attainment by entering data using Arbor.
- Tracking of attainment by using the 2Simple Computing Assessment Tool can be used to inform future planning.
- Children are encouraged to self, peer and group assess work in a positive way using online collaborative tools such as 2Blog in Purple Mash.
- Formative assessment is undertaken each session/interaction in Computing and pupils are very much encouraged to be involved in that process.
- Through using the progression of skills documents from 2Simple, both teachers and pupils can evaluate progress.
- Features such as preview and correct in Purple Mash are used to further support feedback and assessment.

- Summative assessment is undertaken in line with the assessment cycle (as set out in our [Assessment Policy](#)). Using electronic work samples from children's portfolios on Purple Mash, teachers enter judgements about the samples into Arbor.
- Work from a range of classes and abilities is shared using the Noticeboard feature in Purple Mash.

The intended impact of the Computing is that the majority of children in each year group are working at or above the expected level for their age. We monitor the impact of our curriculum through deep dives, pupil voice exercises, work scrutiny and teaching and learning observations.

5. Marking

Assessment, marking and feedback will reflect each child's understanding and skills development within each unit.

6. Resources

We have sufficient resources in our school to be able to teach all our Computing units. We keep resources for Computing in a shared area, where they are clearly labelled. These include iPads, laptops, Micro:bits which we use to enrich teaching in Computing. There is computer software to support the children's individual research and access of Purple Mash resources at home.

- All resources are procured with the underlining considerations of value: The extent at which the resource impacts on learning and the material cost of this. Protocol details for procurement can be found in the school finance policy.
- The Computing Leader keeps up to date with the latest technology resources and will make informed decisions about possible procurement of them through their own research.
- A range of resources is available which successfully supports delivering the Computing curriculum and enables all learners to reach their full potential.
- Suggestions for getting the very best out of the resources are made available to teaching and support staff by the Computing Leader.
- Resources are suitably maintained and replenished when needed, which is overseen by the Computing Leader.
- An itemised list of all resources is shared with staff and kept up to date by the Computing Leader.
- The Computing Action Plan details foreseen future resource procurement which is shared with senior leaders before the budget setting period.
- Audits of school resources are conducted regularly by the Computing Leader, which informs bidding for budgets allocations.

St Cleopas Church of England Primary School takes all necessary measures to ensure both staff and pupils are aware of the importance of health and safety. Both staff and pupils are trained to handle electrical equipment correctly including how to power off and on. Pupils are reminded about the dangers of electricity and the danger signs to look out for. Adequate displays and warning signs are strategically placed around the school to reinforce health and safety.

6. Monitoring and Review

The coordination and planning of the Computing curriculum are the responsibility of the subject leader, who also:

- Supports colleagues in their teaching, by keeping informed about current developments in RE and providing a strategic lead and direction for this subject.
- Use specially allocated management time to review evidence of the children's work, and observe RE lessons across the school.
- Quality of teaching and learning in Computing is monitored and evaluated by the head teacher, SLT and Computing subject lead as part of the school's agreed cycle of lesson observations.



Whole school curriculum map

Subject - Computing Curriculum Map

	EYFS	Year1	Year 1/2	Year 2	Year 3	Year 3/4	Year 4	Year 5	Year 5/6	Year 6
Autumn 2	Remember rules without an adult to remind them	Online Safety 1.1	Coding (Y1) 1.7	Coding 2.1	Coding 3.1	Simulations 3.7	Coding 4.1	Coding 5.1	Word processing (MS Word/ Google) 5.8	Coding 6.1
Autumn 2	Match their developing physical skills to tasks and activities									
Spring 1	Show resilience and perseverance in the face of a challenge	Grouping and sorting 1.2	Spreadsheets (Y1) 1.8	Online Safety 2.2	Online Safety 3.1	Graphing 3.8	Online Safety 4.2	Online Safety 5.1	Online Safety 6.2	Online safety 6.2
Spring 2	Know and talk about the different factors that support their overall health and wellbeing- sensible amounts of 'screen time'	Pictogram 1.3	Tech outside school (Y1) 1.9	Spreadsheets 2.3	Spreadsheets 3.3	Presenting (PowerPoint/ Google slides) 3.9	Spreadsheets 4.3	Spreadsheets 5.3	Quizzing 6.7	Spreadsheets (MS Excel) 6.9
Summer1	Develop their small motor skills so that they can use a range of tools competently, safely and confidently	Lego builders 1.4	Online Safety 2.2	Questioning 2.4	Touch typing 3.4	Online Safety 4.2	Writing for different audiences 4.4	Databases 5.4	Binary 6.8	Blogging 6.4
Summer 2	Explore, use and refine a variety of artistic effects to express their ideas and feelings	Maze Explorers 1.5	Making music 2.7	Effective searching 2.5	Email 3.5	Effective searching 4.7	Logo 4.5	Game creator 5.5	Spreadsheets 6.9	Text adventures 6.5
	Be confident to try new activities and show independence, resilience and perseverance in the face of challenge	Animated stories 1.6	Presenting ideas 2.8	Creating pictures 2.6	Branching databases 3.6	Hardware investigators 4.8	Animation 4.6	Modelling 5.3	Concept maps 5.7	Networks 6.6
	Explain the reasons for rules, know right from wrong and try to behave accordingly									
	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and functions									

Planning

As a school, we have chosen the Purple Mash Computing Scheme of Work from Year 1 to Year 6. The scheme of work supports our teachers in delivering fun and engaging lessons which help to raise standards and allow all pupils to achieve to their full potential. We are confident that the scheme of work more than adequately meets the national vision for Computing. It exposes children to a wide variety of digital tools, technological skills and innovations to enable them to become informed members of the digital community. Furthermore, it gives excellent supporting material for less confident teachers. Using the Department for Education's National Curriculum 2014 for computing and supported by the Purple Mash resource our teaching staff plan well-structured and engaging lessons.

Early Years

At St Cleopas, learning happens as a community between teachers, child and parents. This child centred approach will inspire and motivate both children and adults. We aim to provide our pupils with a broad, play-based experience of Computing in a range of contexts. We believe the following:

- Early Years learning environments should feature ICT scenarios based on experience in the real world, such as in roleplay.
- Pupils gain confidence, control and language skills through opportunities to 'paint' on the interactive board/devices or control remotely operated toys.
- Outdoor exploration is an important aspect, supported by ICT toys such as torches and recording devices.
- Recording devices can support children to develop their communication skills. This is especially useful for children who have English as an additional language.

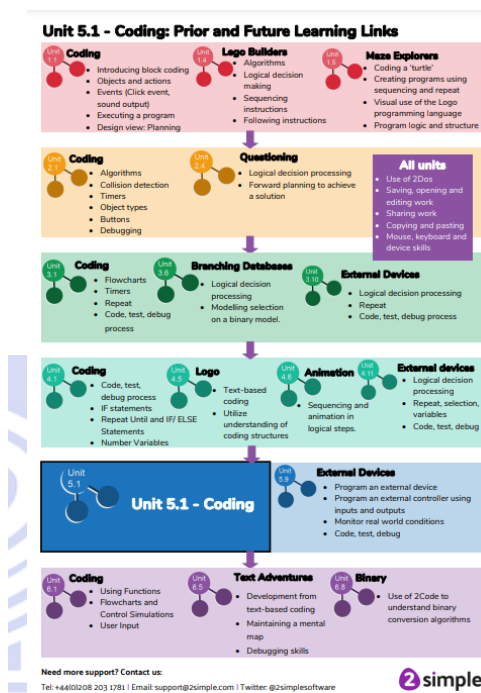
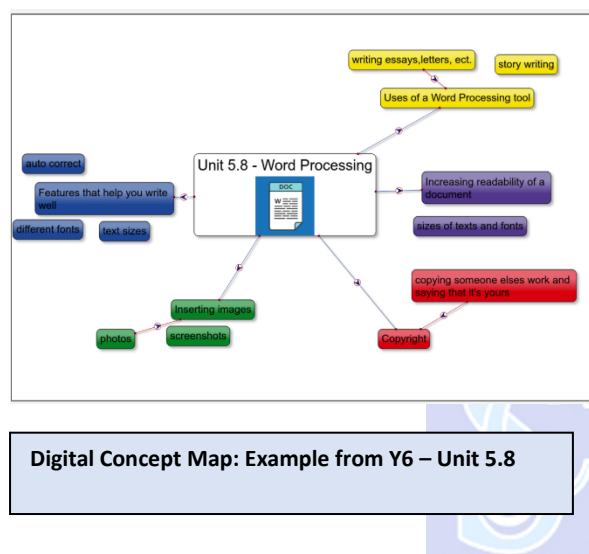
KS1 and KS2

Each unit sets out clearly the knowledge and skills that the children are expected to acquire through a tiered progression model, as well as exploring specific key vocabulary. In addition to the weekly Computing lesson, activities are complemented by a variety of visits to places of worship and visitors. The children are also given the opportunity to enhance their digital literacy skills, computer science and information technology through other subjects such as mathematics, science and geography.

Prior Learning and Assessment in Computing

Prior Learning

It is usual for any person embarking upon a journey to have a map. Across all of our curriculum units at St Cleopas, children use a concept map to record their learning and discoveries as they journey through. This question and concept map is a key tool for assessment, linking lesson content, questions and outcomes within units. They provide strong evidence of knowledge and understanding of prior knowledge, allowing children to reflect on previously taught content and make connections and comparisons. It also serves as a post-assessment task, clearly showing the progress in knowledge and skills gained across a taught unit.



Assessment

Computing is an integral part of teaching and learning and central to good practice. It should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of the concepts of ICT and Computing. As assessment is part of the learning process, it is essential that pupils are closely involved.

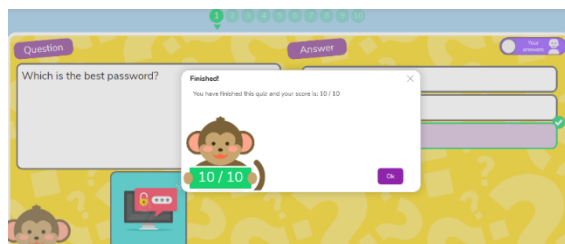
Teachers regularly assess computing through observations and looking at completed work. Key objectives to be assessed are taken from the National Curriculum 2014 alongside use of the 2Simple Assessment Guidance provided by Purple Mash. This guidance provides teachers with examples of statements to support teachers in assessing emerging, expected and exceeding (or greater depth) learners. This guidance marries with the statutory objectives of computing from the National Curriculum 2014.

Assessment can be broken down into:

1. **Formative Assessment**
2. **Summative Assessment**

1. **Formative assessment** is carried out during lessons, involving short, focused tasks and activities. They provide for pupils and teaching staff the opportunity to reflect on their learning

in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.



Key Concepts & Vocabulary Quiz: Example from Y5 – Unit 5.2

2. **Summative assessments** review pupils' capability and provide a best fit level. Use of independent open-ended tasks, provide opportunities for pupils to demonstrate capability in relation to the term's work. There should be an opportunity for pupil review and identification of next steps. Summative assessment is recorded in Arbor for all pupils – showing whether the pupils have met, exceeded or not achieved the learning objectives.

Computing work is saved on the school network or the Purple Mash platform which is accessed by the students, class teacher and Computing Lead.

The intended impact of the Computing curriculum is that the majority of children in each year group are working at or above the expected level for their age. We monitor the impact of our curriculum through deep dives, pupil voice exercises, work scrutiny and teaching and learning observations.

The 2Simple Purple Mash documentation provides school staff with end of Key Stage 1 and Key Stage 2 expectations. This supports staff in making accurate judgements to input data into our central tracking system (Arbor). This data can then help to analyse children's progress and achievement against national curriculum standards.

Parental involvement

Parents are encouraged to support the implementation of Computing where possible by encouraging use of ICT and computing skills at home during home-learning tasks and through the school website. They will be made aware of online Safety and encouraged to promote this at home. Parents will be invited to a parental workshop annually. Current information will be provided for parents on the Online Safety section on the school website.

Early Years Learning, Development and Assessment

In EYFS, teaching is organised across seven areas of learning, rather than traditional subject areas. Consequently, learning related to music is integrated across multiple areas, not confined to just one.

The most relevant Development Matters computing statements are found in the following four areas of learning from the EYFS Statutory Framework:

- **Personal, Social and Emotional Development**
- **Physical Development**
- **Understanding the World**
- **Expressive Arts and Design**

This approach ensures that children's computing experiences contribute to their holistic development across these interconnected areas. At St Cleopas, we believe in the power of computing to help children live joyfully, laugh freely, and learn enthusiastically. In the Early Years Foundation Stage, computing skills, such as following instructions, serve as a vital tool for development across several areas.

Personal, Social and Emotional Development

ELG: Managing Self

Children at the expected level of development will:

- Remember rules without needing an adult to remind them.
- Show resilience and perseverance in the face of a challenge.
- Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.
- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- Explain the reasons for rules, know right from wrong and try to behave accordingly.



Physical Development

ELG: Gross Motor Skills / Fine Motor Skills

- Match their developing physical skills to tasks and activities in the setting.
- Develop their small motor skills so that they can use a range of tools competently, safely and confidently



Understanding the World

- Explore how things work.



Expressive Arts and Design

ELG: Creating with Materials

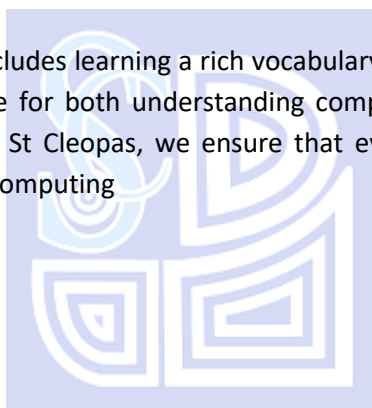
- Explore, use and refine a variety of artistic effects to express their ideas and feelings.
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.



Engaging in computing activities is a fantastic way to enhance communication and language skills in a fun and engaging manner. It also helps children express their thoughts and ideas, fostering positive relationships with both adults and peers.

Through computing activities, children build confidence, learn to interact with others, and participate in group projects. Even without the use of screens, they can develop computational thinking, problem-solving skills, and an awareness of online safety. Activities such as sequencing, pattern recognition, and logical reasoning support their cognitive development, encouraging them to think in new and exciting ways.

A strong computing curriculum includes learning a rich vocabulary to communicate effectively about technology. This skill is invaluable for both understanding computing concepts and writing about technology in later education. At St Cleopas, we ensure that every child lives, laughs, and learns through the joyful exploration of computing





Computing Vocabulary Progression Map (by topic)

	EYFS	Year1	Year 1/2	Year 2	Year 3	Year 3/4	Year 4	Year 5	Year 5/6	Year 6
	computer; mouse; keyboard; screen; click; drag; type; app; game; internet; online; safety; website; image; video; audio; pattern; sort	alert; avatar; device; file name; filter; home screen; icon; login; log out; private; password; typing	action; algorithm; background; click; code; code blocks; coding; command; debug; design; event; instruction; run; software	action; algorithm; background; bug; click events; collision detection; command; debugging; event; execute; instructions; interaction; interval; object; scene; timer	action; alert; algorithm; background; bug; event; debug; event; flowchart; implement; input; interval; nest; object; predict; repeat; run; scene; sequence; test; timer	advantages; analysis; decision; disadvantages; evaluation; modelling; point-of view; realistic; simulation; solution; unrealistic	action; alert; algorithm; background; code blocks; command; co-ordinates; debug; design; event; execute; flowchart; 'If statement; 'If/Else' statement; input; nest; object; prompt; implement; repeat until; properties; selection; sequence; variable	abstraction; action; algorithm; command; concatenation; decomposition; efficient; event; friction; function; input; nest; object; physical system; print to screen; sequence; simplify; simulation; string; tabs; variable	attributing; bulleted lists; breaks; caps lock; captions; copy and paste; copyright; creative commons; cropping; cursor; distributing columns; document; editor options; grammar check; hyperlink; image editing; image transparency; merge cells; page orientation; spell check; template; text box; text wrapping; word processing tool; zoom	concatenation; co-ordinates; decomposition; execute/run; function; input; launch command; object; output; procedure; properties; selection; sequence; simulation; string; tabs; text object; x and y properties
		algorithm; criteria; describe; equal; groups; less than; more than; sort	button; calculations; cell; column; count tool; data; delete; image; move cell; row; select; spreadsheet; value	attachment; digital footprint; email; filter; identifying; Internet; personal information; private information; protection; reply; search; secure; sharing	appropriate; blog; inappropriate; internet; password; permission; reliable source; reputable source; spoof; verify; vlogs; website	axis; chart; column; data; graph; investigation; row; sorting; survey; tally chart; title	Ad Fly; attachment; citation; collaborate; collaborative database; cookies; copyright; data analysis; malware; phishing; ransomware; report SMART rules; software; spam; virus; watermark	appropriate; avatar; bibliography; citation; collaborate; communication; copyright; creative commons licence; critical thinking; encrypt; identity theft; image manipulation; malware; ownership; PEGI ratings; phishing; plagiarism; reference; reliability; responsibility; screenshot; SMART rules; spoof; validity	data analysis; digital footprint; inappropriate; location sharing; password; PEGI rating; phishing; print screen; screen time; secure websites; spoof	privacy policy; secure;

Friendship – Respect – Joy – Compassion – Forgiveness – Courage

		collect data; compare; data; pictogram; record results; title; totals; visual	computer; device; store; invent; technology	block graph; cell; column; copy; count tool; cut; data; drag; equals tool; image value; row; toolbox; total	advanced mode; bar graph; cell address; data; pie chart; quiz tool; spinner tool; table	animation; audio; border properties; duration; editing; fill colour; don't formatting; layer; media presentation; preview; review; slide; slideshow; sound effect; textbox; theme; timing; transition; video; WordArt	average; budget; calculations; chart; column; data; decimal place; equals to tool; format cell; formula; formula wizard; line graph; percentage random number tool; row; set image; spinner tool; timer; totals	advance mode; area; budget; computational model; data; format cell; formula; formula bar; formula wizard; perimeter; profit; spreadsheet; totalling tool; variable	audience; audio; case-sensitive; clipart; clone; cloze; copy/paste; database record; database field; image filter; selfie; statistics; undo/redo; preview; quiz	auto fit; budget; categories ribbon; cell reference; computational model; conditional formatting; delimiter; expense; filter; flash fill; range; series; sheet; spreadsheet; template; text wrapping; workbook
		algorithm; code; computer; debugging; instructions; machine; program; recipe; sequence	attachment; digital footprint; email; filter; identifying; internet; personal information; private information; protection; secure; sharing	avatar; binary tree; data; database; field; information; pictogram; question; record; search; sort	keyboard; keys; posture; spacebar; typing	AdFly; attachment; citation; collaborate; collaborative database; cookies; copyright; data analysis; digital footprint; malware; phishing; plagiarism; ransomware; report; SMART rules; software; spam; virus; watermark	average; budget; calculations; chart; column; data; decimal place; equals to tool; format cell; formula; formula wizard; line graph; percentage; random number tool; resize; set image; spinner tool; timer; totals	arrange; avatar; chart; collaborative; data; database report; filed; group; record; search; sort; statistics	binary; bot; denary; game states; integer; microprocessor; nanotechnology; nibble, byte, kilobyte, megabyte, gigabyte and terabyte; switch; transistor; variable	approval; archive; blog; blog post; collaborate; commenting; connections; nodes; vlog
		algorithm; challenge; command; delete; direction; instruction; left and right; route; undo; unit	bars; beat; compose; note; tune; repeat; sound effect; soundtrack; speed; tempo; volume	browser; device; digital footprint; domain; internet; network; search engine; URL; web address; web page; web site; World Wide Web	address book; attachment; communication; compose; email; inbox; link; password; personal information; save to draft; trusted contact	balanced view; Easter eggs; internet; key words; reliability; results page; search engine	debugging; grid; logo; logo commands; multi line mode; pen down; pen up; prediction; procedure; repeat; run speed; SETPC; SETPS	evaluation; feedback; image; instructions; promotion; quest; scene; screenshot; texture; theme	auto fit; budget; categories ribbon; cell reference; computational model; conditional formatting; delimiter; expense; filter; flash fill; range; series; sheet; spreadsheet; template; text wrapping; workbook	debugging; flow of control; function; link; QR code; repeat; sprite; step through; text adventure; variables
		animation; background; category; clip-art gallery; copy; drop-down menu; e-book; edit; eraser; font; sound; paste; play mode; redo; sound effect; text	e-book; fact file; mind map; multiple-choice; node; presentation; quiz	clipart; diagonal; eCollage; fill; horizontal; line; palette; parallel; repeating pattern; rotated; stamps; style; vertical	binary tree; branching database; data; database; debugging	components; CPU; graphics card; hardware; input; motherboard; network card; output; peripherals; RAM; software	animation; FPS (Frame Per Second); frame; onion skinning; pause; stop motion	2D; 3D; 3D printing; CAD – Computer Aided Design; design brief; net; pattern fill; points; template	concept; concept map; connection; collaborate; heading; sub-heading; node; presentation mode; story mode	Data; DNS (Domain Name Server); ethernet; hosting; hub/switch; IP address; ISP (Internet Service Provider); LAN (Local Area Network); network; router; search engine; WAN (Wide Area Network); web page; web server; WLAN (Wireless Local Area Network); Wi-fi; World Wide Web



Computing Key Skills Progression (by year group)

Years 1 and 1/2			
Area of learning	Computer Science	Information Technology	Digital Literacy
Knowledge (National curriculum)	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	- Recognise common uses of information technology beyond school - Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
Skills	- Children begin to understand that an algorithm is a precise, step by step instruction used to solve a problem or achieve an objective. - Children can use directional language to support their programming. - Children can order events to program and debug algorithms. - Children can identify that an unexpected outcome is a 'bug' and that these can be debugged using logical steps. - Children can begin to predict the outcome of a program by looking at the instructions or code.	- Children can login using their own usernames and passwords. - Children can save learning into a folder. - Children can retrieve learning from a folder - Children are becoming familiar with icons such as save, print, open and new.	- Children can discuss why their password needs to be kept safe and private. - Children can investigate objects to see if they use digital technology outside of school. - Children can discuss the steps to take if worried about something online. - Children begin to discuss the differences between old and new technology.

Years 1/2 and 2			
Area of learning	Computer Science	Information Technology	Digital Literacy
Knowledge (National curriculum)	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs. - Use logical reasoning to predict the behaviour of simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	- Recognise common uses of information technology beyond school - Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
Skills	- Children understand that an algorithm is a precise, step by step instruction used to solve a problem or achieve an objective. - Children are precise when creating an algorithm. - Children use their current knowledge and apply logic when creating an algorithm rather than a constant 'trial and error' approach. - Children show an understanding of the 'cause and effect' needed for programming. - Children can identify that an unexpected outcome is a 'bug' and that these can be debugged using logical steps. - Children can predict the outcome of a program by looking at the instructions or code.	- Children can login using their own usernames and passwords. - Children can save learning into a folder. - Children can retrieve learning from a folder - Children are becoming familiar with icons such as save, print, open and new.	- Children can discuss why their password needs to be kept safe and private. - Children can investigate objects to see if they use digital technology outside of school. - Children can discuss the steps to take if worried about something online. - Children begin to discuss the differences between old and new technology.

Years 3 and 3/4			
Area of learning	Computer Science	Information Technology	Digital Literacy
Knowledge (National curriculum)	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Skills	- Children can turn a real-life situation into an algorithm by breaking down its component parts. - This includes simulating physical systems e.g. speeds and angles. - Children can create a sequential algorithm. - Children begin to use x,y and 'if' statements. - Children begin to use variables and explain their purpose. - Children begin to use timings and repeats. - Children consistently use their current knowledge and apply logic when creating an algorithm rather than a constant 'trial and error' approach. - Children understand 'cause and effect' needed for programming.	- Children can use simple searches to retrieve information and digital content. - Children are aware some searches are local to a machine and others take place through the internet. - Children can use databases to collect, analyse and evaluate information using a selection of software. - Children use appropriate software for appropriate tasks. - Children understand and use email attachments.	- Children can model password security consistently. - Children can identify multiple ways to keep themselves safe online e.g. trusted adults, content filters, safe searching techniques. - Children demonstrate the importance of having a secure password and not sharing this with anyone else. - They understand the importance of staying safe and the importance of their conduct when

	• Children can confidently identify that an unexpected outcome is a 'bug' and that these can be debugged using logical steps. • Children can predict the outcome of a program by looking at the instructions or code.		using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact
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Years 3 and 3/4			
Area of learning	Computer Science	Information Technology	Digital Literacy
Knowledge (National curriculum)	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. - Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Skills	- Children can turn a real-life situation into an algorithm by breaking down its component parts. - This includes simulating physical systems e.g. speeds and angles. - Children can create a sequential algorithm. - Children begin to use x,y and 'if' statements. - Children begin to use variables and explain their purpose. - Children begin to use timings and repeats. - Children consistently use their current knowledge and apply logic when creating an algorithm rather than a constant 'trial and error' approach. - Children understand 'cause and effect' needed for programming.	- Children can use simple searches to retrieve information and digital content. - Children are aware some searches are local to a machine and others take place through the internet. - Children can use databases to collect, analyse and evaluate information using a selection of software. - Children use appropriate software for appropriate tasks. - Children understand and use email attachments.	- Children can model password security consistently. - Children can identify multiple ways to keep themselves safe online e.g. trusted adults, content filters, safe searching techniques. - Children demonstrate the importance of having a secure password and not sharing this with anyone else. - They understand the importance of staying safe and the importance of their conduct when

	• Children can confidently identify that an unexpected outcome is a 'bug' and that these can be debugged using logical steps. • Children can predict the outcome of a program by looking at the instructions or code.		using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact
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Years 5 and 5/6			
Area of learning	Computer Science	Information Technology	Digital Literacy
Knowledge (National curriculum)	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.
Skills	- Children attempt to turn more complex situations into algorithms for a program by deconstructing it into manageable parts. - Children are able to identify the approximate cause of any bug but may need some support identifying the specific line of code. - Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set. - They are beginning to think about their code structure in terms of the ability to debug and interpret the code later.	- Children search with greater complexity for digital content when using a search engine. - They can explain in some detail how credible a webpage is and the information it contains. - Children can make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. - They objectively review solutions from others. Children can collaboratively	- Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. - Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.

	• They recognise what personal information is and can explain how this can be kept safe. • Children can select the most appropriate form of online communications based on an audience.	create content and solutions using digital features within software. • They can use several ways of sharing digital content.	
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Years 5/6 and 6			
Area of learning	Computer Science	Information Technology	Digital Literacy
Knowledge (National curriculum)	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.
Skills	- Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. - Children test and debug their program as they go. - Children logically and systematically test and debug their code. - Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task. - Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the	- Children readily apply filters when searching for digital content. - They can explain in detail how credible a webpage is and the information it contains. - They compare a range of digital content sources and can rate them in terms of content quality and accuracy. - Children use critical thinking skills in everyday use of online communication. Children make clear connections to the audience when designing and creating digital content.	- Children demonstrate the safe and respectful use of a range of different technologies and online services. - They identify more discreet inappropriate behaviours through developing critical thinking. - They recognise the value in preserving their privacy when online for their own and other people's safety.

	user of the program such as button clicks and the value of functions. • Children can interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program. Children understand and can explain in some depth the difference between the internet and the World Wide Web. • Children know what a WAN and LAN are and can describe how they access the internet in school.	• The children design and create their own blogs to become a content creator on the internet. They can use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements	
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SEND

At St Cleopas Primary Academy our vision is that every child deserves to be cherished in a community that nurtures and develops opportunities for lifelong learning on our journey walking alongside Jesus, opening our eyes and hearts to all. Our Computing curriculum is inclusive for all learners, and we work tirelessly to ensure children are supported, challenged, and stretched at a level that will ensure progress for all children.

We provide all our children, including those with SEND, with a progressive, well-sequenced and purposeful curriculum, ensuring there is:

- Adaptive teaching, reasonable adjustments to our learning environment, group and individual interventions and support as part of our curriculum implementation for our children with SEND.
- Children have the knowledge, skills and concepts needed to be successful in their future careers.
- All children, particularly the most disadvantaged and those with SEND gain the knowledge and cultural capital they need to succeed in life.
- Quality first teaching ensures children with SEND make excellent progress.

Greater depth learners

At St Cleopas, we aim to develop all pupils so that they achieve and succeed. Our Computing curriculum is inclusive for all learners, and we work tirelessly to ensure children are supported, challenged, and stretched at a level that will ensure progress for all children.

Characteristics of Greater Depth in Computing at St Cleopas:

- Children who approach problem-solving situations with persistence, resilience, and confidence.
- Children who participate in extra-curricular activities, both inside and outside of school, to further strengthen their computing skills (e.g., touch typing, creating PowerPoint presentations for the class).
- Children who have a firm grasp of Microsoft products (Word, PowerPoint, Excel, etc.) and can use or combine these tools for a variety of purposes.
- Children who demonstrate a comprehensive understanding of coding and confidently work with various forms of input and output.
- Children who confidently evaluate the validity of websites and can identify the sources of information found on the internet.
- Children who navigate the internet safely and effectively, recognize potential problems, and know how to report them immediately.
- Children who fully understand, explore, and apply skills and ideas in different ways, situations, and subjects.
- Children who apply knowledge from other subjects to solve technological problems.
- Children who constantly review, analyse, and evaluate their work, making improvements without prompting.

We stretch our greater-depth learners in computing in several ways, including:

- Presenting them with complex, thought-provoking problems that encourage deep analytical thinking.
- Setting projects that require creative solutions and innovative approaches to real-world issues.
- Engaging them in debates on emerging technologies and ethical considerations to stimulate critical thinking.
- Encouraging connections between computing concepts and their applications in various fields to broaden their understanding.
- Providing feedback that prompts responses exceeding age-related expectations, pushing them to develop advanced skills and knowledge.

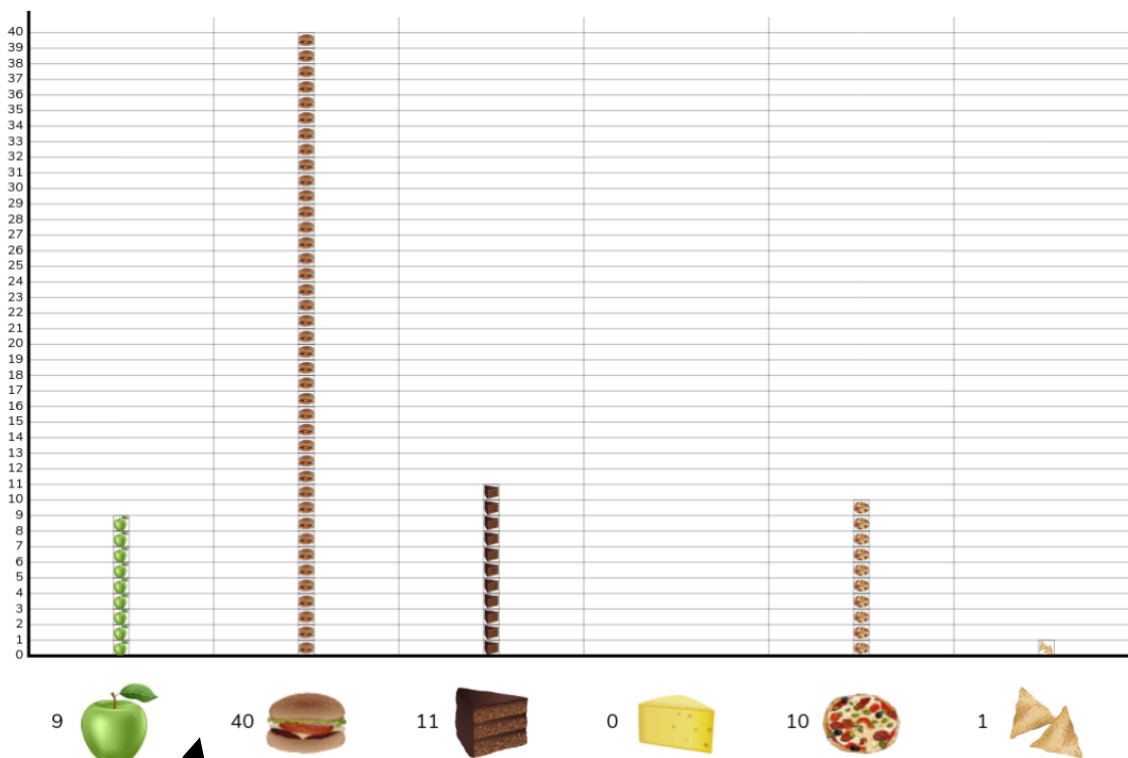
On the following pages, we provide examples to guide how we assess pupils who are exceeding expectations or working at greater depth. This list is not exhaustive, and children do not need to achieve every statement. It serves as a guide. Further information on assessing greater depth learners can be found on the **Resources** page (p.38).



Year 1 Example (Grouping & Sorting 1.2)

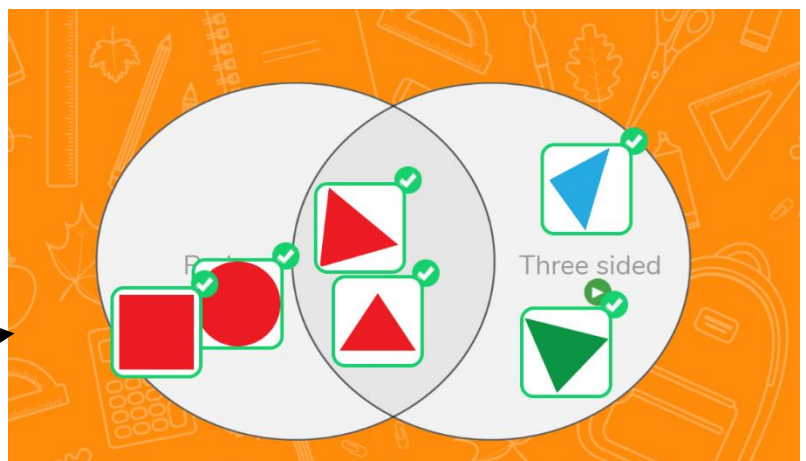
Evidence through teacher observations:

- A noticeable curiosity and enthusiasm for using technology and solving problems.
- An ability to understand and navigate basic computer programs with minimal assistance.
- Early signs of coding comprehension, such as creating simple sequences in visual coding tools.
- A strong awareness of internet safety principles, even at a basic level.
- The capacity to make connections between computing skills and other areas of learning.



Exceeding: Child demonstrates their depth of understanding by creating their own criteria for items against which they can physically sort, collate, edit, present, search through, re-order and re-structure and explain their reasoning.

Exceeding: Using Purple Mash, children can also sort items into Venn diagrams using given criteria



Year 2 Example (Coding 2.1)

Evidence through teacher observations:

- Demonstrating curiosity and enthusiasm for technology and solving more complex problems than in Year 1.
- Using a variety of basic computer programs with confidence and independence.
- Creating and debugging simple programs using visual coding tools, showing a deeper understanding of coding concepts.
- Having a strong grasp of internet safety principles and being able to explain safe online practices clearly.
- Integrating computing skills with other subjects, applying their knowledge and skills in various contexts and activities.

Story Title: Princess and Frog algorithm

Author:



After 5 seconds princess goes right and frog goes left.



When they collide, they both stop.



Princess turns into a queen and frog turns into a prince.



What do we want to happen next?



What do we want to happen next?



How will our story end?



Exceeding: Children can identify the parts of a program that respond to specific events and initiate specific actions. Based on this, children can adopt a systematic approach for predicting the behaviour of programs. Using cause and affect language, child can reason in detail about what will happen in a program.

Year 3 Example (Simulations 3.7)

Evidence through teacher observations:

- Independently solve complex problems and write programs.
- Handle data proficiently, creating and analysing charts and graphs with minimal assistance.
- Understanding of online safety is advance, recognising online risks and protecting personal information.
- Demonstrate creativity through multimedia projects and effectively use collaboration tools for group work
- Clear understanding of computer components and basic networking concepts.

Name Write in here...

Simulations

What is a simulation?

An smaller image of the real thing it is an image because it might be to dangerous in real life or to expensive.

Click on the choose image box and choose a photo of a simulation example. Write about how this simulation can be used.

	
Surgical simulation offers the chance to test out an operation before the real thing happened.	Car simulation teaches people to drive

Exceeding: Children demonstrating greater depth, will use 2Simulate to analyse, evaluate, identify patterns, and predict the outcomes of simulated scenarios.

They will present their predications and findings as part of a discussion and give detailed explanations for the choices they have made.

Children demonstrating greater depth will not only understand the importance of simulations to replicate events but will also identify where simulations are used in everyday life.

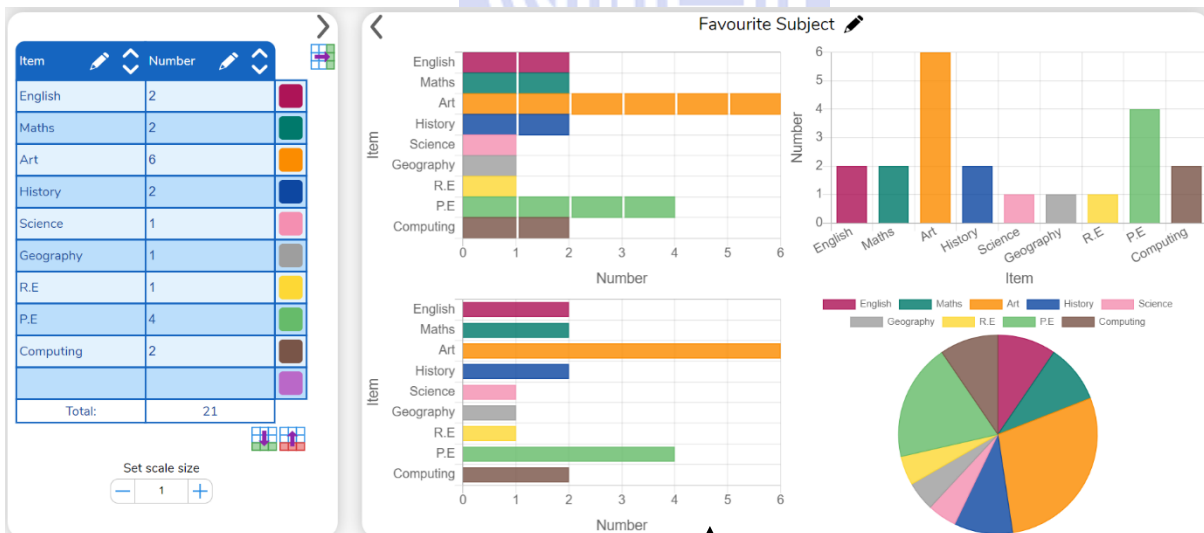
Year 4 Example (Spreadsheets 4.3)

	A	B	C	D	E	F	G	H	I	J	K
1		Item	Price		Quantity		Total				
2		gummy	£0.50	x	4	=	£2.00				
3		popcorn	£0.99	x	30	=	£29.70				
4		paper cup	£1.00	x	15	=	£15.00				
5		paper plates	£0.53	x	40	=	£21.20				
6		crisps	£0.64	x	20	=	£12.87				
7		invatation	£2.45	x	40	=	£98.00				
8		chocolate	£1.25	x	9	=	£11.25				
9		bannanas	£60.00	x	1	=	£60.00		change	£1.98	
10		dj	£48.00	x	1	=	£48.00				
11											
12		Budget	£300.00				£298.02				

Children demonstrating greater depth will explore more complex functioning of the 2Calculate tools to create their own spreadsheets to explore number and interpret their own data.

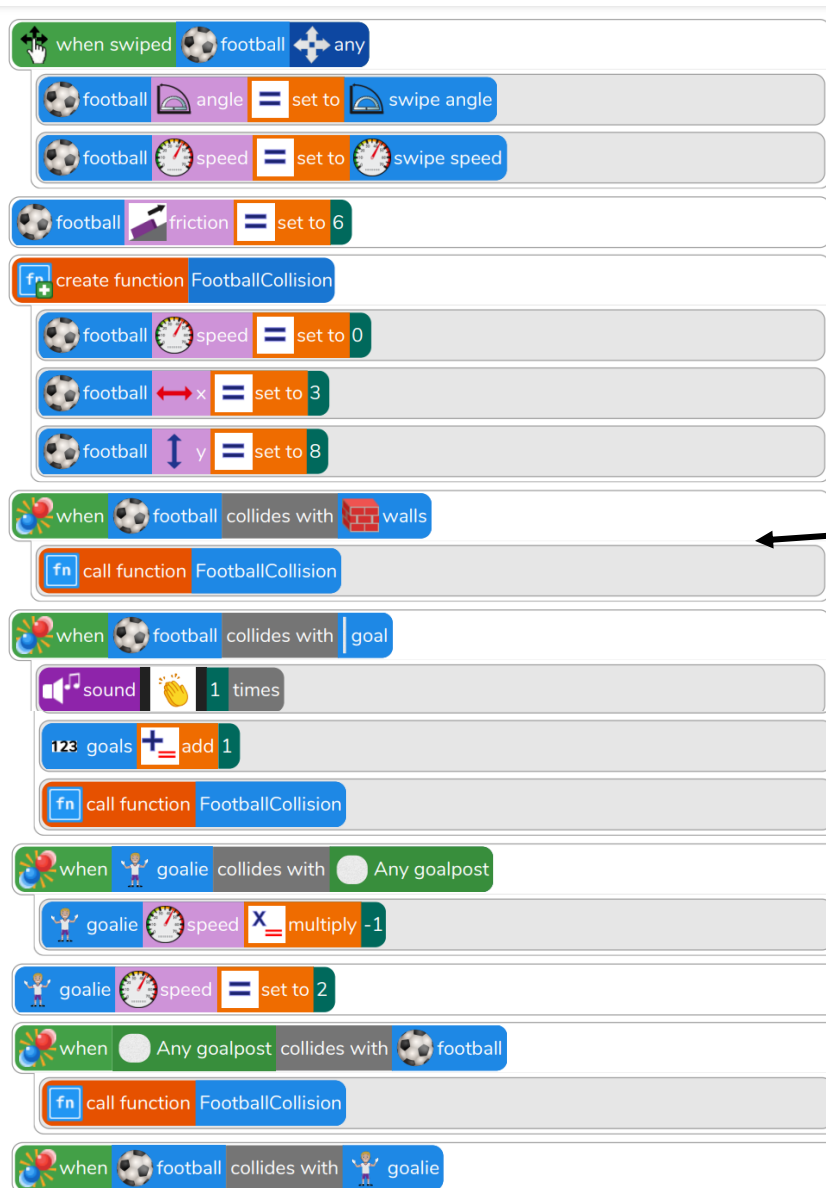
		3P	Spiling	Scores		
Name	score	out of	%			fraction
			0 d.p.	1 d.p.	2 d.p.	
Thomas	56	140	40%	40.0%	40.00%	$\frac{2}{5}$
Olivia	135	140	96%	96.4%	96.43%	$\frac{27}{28}$
Jack	140	140	100%	100.0%	100.00%	1
Oliver	138	140	99%	98.6%	98.57%	$\frac{69}{70}$
Emily	100	140	71%	71.4%	71.43%	$\frac{5}{7}$
Charlie	139	140	99%	99.3%	99.29%	$\frac{139}{140}$
Grace	123	140	88%	87.9%	87.86%	$\frac{123}{140}$
Harry	27	140	19%	19.3%	19.29%	$\frac{27}{140}$
Sophie	70	140	50%	50.0%	50.00%	$\frac{1}{2}$
Average	103.11					

Exceeding: They will intuitively grasp the concept of using a spreadsheet to model a real-life situation and calculate solutions.



Children demonstrating greater depth will use 2Calculate to design a range of different graphs which present data in a variety of ways and select the most appropriate one to independently to solve mathematical problems.

Year 5 Exceeding Example (Coding 5.1)



Exceeding: Children create more complex programs and simplify code for efficiency.

Children write algorithms and program simulations, adapting their code easily.

They understand and apply decomposition and abstraction when planning algorithms.

Children grasp selection, repetition, and variables, combining them with other structures to improve programs.

They use functions to improve efficiency.

Children apply mathematical concepts like coordinates, angles, and negative numbers in coding.

They organize code with tabs and variable naming for debugging purposes.

Children understand different variable types and use them effectively.

Evidenced through teacher observations:

- They easily recall and apply previous coding knowledge.
- They successfully fix their own bugs as their coding becomes more complex.
- They can read and predict others' code, aiding in error correction.

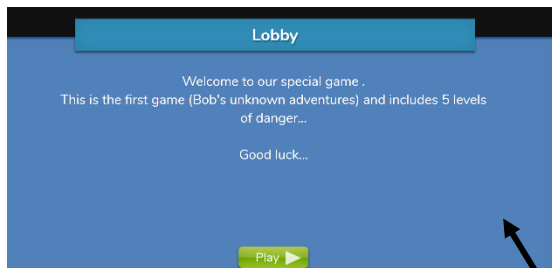


 call function FootballCollision

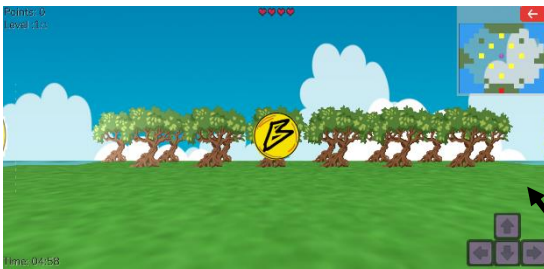
 when key G

 speed  set to 4

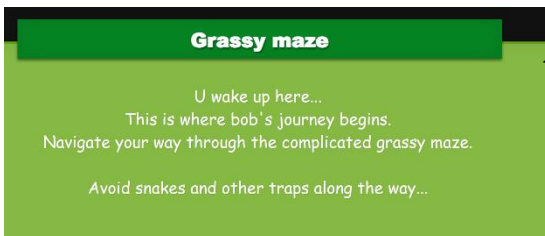
Year 6 Exceeding Example (Coding 5.1)



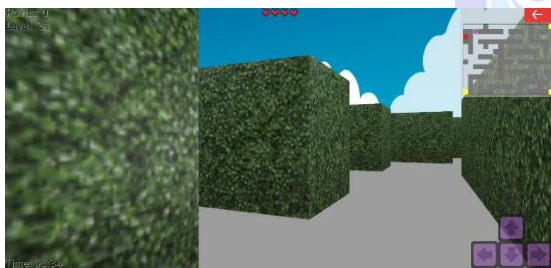
Exceeding: Children can turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. They can then use this design to write a program using 2Code or other suitable software program (Scratch / MakeCode).



Children's designs show that they are thinking both of the required task (e.g to make an interactive game), and of how to accomplish this in code.



Children intuitively grasp the concepts of selection, repetition and variables and make use of the various commands to use input from users and produce output including sound and movement.



Children like to challenge themselves to combine these with other coding structures to achieve the effects that they design to personalise and to improve their programs.

Evidenced through teacher observations:

Children test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs then test systematically to identify the specific line of code that is causing the problem.

They are also thinking about good structure to their code with a view to debugging such as the use of tabs and functions to organise code and the naming of variables.

Computing across the curriculum

Learners should be given opportunities to build on skills they have started to acquire and develop. Learners should continue to acquire, develop, practise, apply and refine these skills through group and individual tasks in a variety of contexts across the curriculum. Progress can be seen in terms of the refinement of these skills and by their application to tasks.

In increasingly technological driven world, children must learn to incorporate these skills beyond computing lessons. At St Cleopas Church of England Primary Academy, teachers take every opportunity to do this. We understand the importance of supporting opportunities for all children. Our future workforce should reflect a broad cross section of society, including but not limited to: age, gender, race, religious beliefs, cognitive and physical differences.

Some examples include: resources used for research across all subjects; software used to communicate and share information; to present information in a variety of formats using word processing and graphics; excel for creating budgets in maths.

Beyond the curriculum

- Computing contributes to **personal and social education**. Learners are encouraged to reflect on the values and aspirations of their own lives, the lives of others and of an increasingly technological driven society.
- Through our termly online safety lessons, computing contributes to **moral education**. At St Cleopas we encourage learners to make in use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
- In Computing lessons, learners develop **problem-solving and thinking skills** through a range of activities.

Resources

- Department for Education. (2014) *National Curriculum for Computing*. [Computing Key Stage 1 & 2](#)
- 2Simple Purple Mash. *Computing Scheme of Work – A guide to assessment using the tools and resources*: [Guide to Assessment](#)
- 2Simple Purple Mash. *Computing Vocabulary all years*. [Computing Vocabulary definitions](#)
- Year 1 Purple Mash Scheme of Work / Assessment: [2 Simple Assessment Guidance Year 1](#)
- Year 2 Purple Mash Scheme of Work / Assessment: [2 Simple Assessment Guidance Year 2](#)
- Year 3 Purple Mash Scheme of Work / Assessment: [2 Simple Assessment Guidance Year 3](#)
- Year 4 Purple Mash Scheme of Work / Assessment: [2 Simple Assessment Guidance Year 4](#)
- Year 5 Purple Mash Scheme of Work / Assessment: [2 Simple Assessment Guidance Year 5](#)
- Year 6 Purple Mash Scheme of Work / Assessment: [2 Simple Assessment Guidance Year 6](#)

