



Together in God's love, we learn, inspire and grow



Computing Policy

This policy has been adopted by the governing body
of
St Andrews' C of E Primary School.
It will be reviewed annually or as required.

Updated: 12.05.2023

Computing Subject Leader: Hazel Wallace

Signed: P.Dwan Deputy Head

Whole School UNIQUE Curriculum intent

Our UNIQUE curriculum is designed to recognise and have a solid **understanding** of children's prior learning, providing knowledge and learning **experiences** which build resilience and critical thinking. Central to this is excellent skills in Reading - the essential key to the whole curriculum. We provide opportunities to engage learning in a fun and **nurturing** way and every child is recognised as a **unique individual**. We plan and provide a clearly mapped out curriculum which results in **good quality outcomes**. We model and promote **positive attitudes** to learning which reflect the values of our Christian school, enabling children to take responsibility for their lives. Children leave St Andrew's with a **sense of belonging** to an outward looking **community** where **opportunities and aspirations** are unlimited. At St Andrew's we ensure that equality is **embedded** in all that we do.

Computing Curriculum Intent

Our aim for each child at St Andrew's C of E Primary School is for them to be exposed to a high-quality computing education which equips them to use their computational thinking and creativity to understand and change the world. The curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. All children will be exposed to the three strands of the computing curriculum: Computer science, Information technology and Digital literacy. The objectives within each strand support the development of learning across the key stages, ensuring a solid grounding for future learning and beyond.

How does our whole school UNIQUE curriculum present in computing?

Understanding - Our Computing curriculum exposes every child to the three strands of computing: digital literacy, computer science and information technology. Our teachers have a solid understanding of children's prior learning in computing and our curriculum is carefully mapped out to ensure progression, building upon what children already know and can do. Knowledge organisers, retrieval tasks and working walls situated in our computing suite are used to help children retain their knowledge in computing. All children are being taught against their year group milestones of knowledge, which are built upon as they move through school.

Nurturing - In Computing lessons, children are encouraged to explore, evaluate and revisit their ideas. In doing this, children develop patience, persistence and resilience. They recognise the possibility of making mistakes without feeling a sense of failure, which in turn builds confidence. Children are encouraged to try out new skills with the knowledge that it's ok to find things difficult and it's ok to make mistakes as this is all part of the learning process. Shoulder partner work is used within computing lessons to ensure children build confidence and learn

more through orally discussing their work and ideas.

Individual - We teach Computing to all children in a way that suits all individual needs. Computing forms part of the school curriculum policy to provide a broad and balanced education for all children. Through our teaching of computing, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. We incorporate high order questions to extend the most able children in computing and allow for all St Andrew's pupils to flourish and succeed in an individual way.

Quality: When planning and teaching Computing lessons at St Andrew's, we ensure children are exposed to the three strands of computing: digital literacy, computer science and information technology. Computing is recorded in a variety of ways to engage all learners and to over-come possible barriers e.g. Purple Mash online programs, online quizzes, simulations and coding programs.

Unlimited aspirations: Every pupil is a St Andrew's will leave with a strong core of Computing knowledge, learnt and secured through a range of different experiences. Computing can be hands on, it **can breed resilience**. It develops problem solving skills, and it opens a student's eyes to the digital world. This can engage, enthuse and cause a real spark in students which result in them seeking employment within the computing industry in life beyond St Andrews.

Equality: In computing lessons, our children are taught that art is for everyone - regardless of starting points. Anyone can be an computer scientist and anyone can enjoy and appreciate the benefits that technology gives to society. Teachers take measures to ensure that every pupil has access to a carefully mapped out, progressive computing curriculum, within which, all children's outcomes are celebrated.

Long term planning and curriculum design:

The Computing curriculum is coherently planned and sequenced through the clearly defined National Curriculum programmes of study.

Computing Implementation

Computing at St Andrew's incorporates a variety of teaching and learning styles in Computing lessons. Our aim is to develop the children's knowledge, skills and understanding. We do this through a mixture of whole-class teaching and individual / group activities. Teachers will deliver

'plugged' and 'unplugged' lessons allowing children the opportunity to be exposed to theories within computing and also apply taught knowledge and skills to a range of technology and programmes. Teachers will continuously use the correct vocabulary whilst teaching and supporting children and encourage children to use the correct vocabulary in written and verbal responses. Assessment of prior learning will inform teaching and misconceptions will be addressed accordingly to ensure lesson pitch is accurate to move children forward.

During each lesson, teachers will use a range of short tasks, explanation, high-level modelling and demonstrate how to debug and evaluate.

Computing language

Computing lessons provide opportunities for pupils to communicate and develop computing language through:

- Prior assessment of key vocabulary for the programme of study. Prior assessment is carried out at the beginning of every unit, and again at the end of the unit to measure progress. Understanding of computing vocabulary is assessed through observation by the Class Teacher. This assessment can be carried out in a number of ways e.g. games such as 'sticky notes', paired language development activities, matching vocabulary to definitions games etc.
- Essential vocabulary at the beginning of every lesson and insisting on its use throughout - vocabulary to be visible using the working wall.
- Modelling by class teachers of computing language
- Plenaries which give a further opportunity to assess understanding through pupil explanations.

Computing in EYFS

Although there is no specific early learning goal linked to computing, in the 2021 EYFS framework children in our reception class still receive opportunities to use and explore a wide range of technologies in reception. As with all other areas of learning, the teaching and learning of Computing in our Reception class, takes place both indoors and outdoors through a wide range of practical and hands on activities. The staff use their knowledge and expertise to plan for a high-quality learning environment which provides children with lots of opportunities to explore different aspects of computing indirectly through activities that encourage the children to explore and react to the world around them. The children have a wide range of structured play resources available to them throughout the year - this is known as continuous provision. As well as learning through play, all children take part in small group, adult led computing-based activities which then feed into opportunities in the play provision. Throughout the year children will have access to desktop computers, Ipads, BeeBots and a range of other technologies.

What does a Computing lesson at St. Andrew's look like?

All units of work incorporate some, or all, of the three, over-arching strands of computing (Computer science, digital literacy, and information technology). Each lesson will incorporate one or more aspect of computing that the children should be familiar with across the school.

St Andrews's Lesson Structure: Computing lessons will be taught using 'plugged and unplugged lessons'.

- 1) **Prior assessment:** assessment through teacher observation, based on the prior knowledge the children have from previous learning
- 2) **Recap** previous learning and vocabulary.
- 3) **Introduce new learning:** introduce the main computing concept for the lesson
- 4) **Apply the new learning:** There's a mixture of short tasks, explanation, demonstration and discussion. Use of appropriate programs during plugged lessons.
- 5) **Develop the new learning:** deepen understanding of the concept through problem solving, logical reasoning and computational thinking. Children to be challenged and tasks to be presented to them in different ways to move their learning forward.
- 6) **Plenary:** Recap and reinforce learning, address misconceptions, celebrate success.

How we ensure that pupils 'know more, remember more and can do more':

Effective use of our Computing displays/working walls, which are reviewed each lesson with key vocabulary and the opportunity to recall 'sticky knowledge'. The recap of previous learning and vocabulary at the start of every lesson is important and is a crucial part of every computing lesson.

To ensure all children have the opportunity to apply their sticky knowledge to an independent task, either throughout or at the end of a unit of work, when all learning objectives have been taught.

How the Computing curriculum meets the needs of all pupils, particularly disadvantaged pupils and SEND pupils:

We have designed our curriculum to meet the needs of all our pupils in line with the school key priorities. All class teachers know who their disadvantaged and SEND pupils are and can target them for specific questioning, support and resources in lessons. Learning opportunities within Computing lessons cater for all needs and are kinesthetic, visual and auditory. Pupils can also be targeted for TA support and there are also opportunities for children of different abilities to work together. SENCO offers advice and support which enables teachers to plan activities that meet the needs of all children.

We recognise the fact that we have children of differing ability in all our classes and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways by:

- Setting common tasks that are open-ended and can have a variety of responses
- Setting tasks of increasing difficulty
- Grouping children by ability according to the style of task
- Providing a range of challenges with different resources
- Using additional adults to support the work of individual children or small groups (where possible)
- Incorporating high order questions that apply to scientific thinking to extend the most able children in computing

We teach computing to all children. Computing forms part of the school curriculum policy to provide a broad and balanced education for all children. Through our computing teaching, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. Some children may use Adult Support in lessons, either 1:1 or in small groups, in order to access tasks set with confidence and to dispel any barriers to their learning. Where reading or writing maybe be of difficulty to a child, alongside adult support, children may use a range of technology and programs to present their work. Where a child may have difficulty in mathematics, as well as adult support, maths supporting materials maybe be used e.g. a 100 square when working with spreadsheets to support multiplication facts. All barriers to learning are addressed in order to allow all children to access and achieve in all areas of science.

Art Impact

Overview of Art assessment procedures, including the expectations of teachers using both formative and summative assessment:

Formative assessment: Teachers assess children's work formatively in computing through observations and marking. These assessments inform the class teacher's planning for future lessons.

Summative assessment: At the end of a unit of work (termly) the class teacher makes a judgement about the children's achievements, and this information is then recorded and fed back to the Computing Subject Leader.

The Computing Subject Leader carries out a termly overview of progress in computing. At the start of the year, key objectives are identified that will be assessed in each unit and opportunities for assessment are planned for. Wherever possible, children are the first to assess their learning.

Both formative and summative assessment may take the form of a practical activity, a concept map or a written assessment. The teacher uses these assessments to inform reports to parents and the next class teacher at the end of the year, and to carry out termly teacher assessment at the end of each unit of work.

Monitoring arrangements

Lesson drop in: The Computing lead and a member of SLT will visit computing lessons across the year.

Medium Term Planning: All medium-term planning for each year group is accessible through Purple Mash Scheme of work (PM SOW). Staff should use PM SOW planning as the foundation of their teaching. Planning can be adapted where necessary to suit the needs of all learners.

Pupil Voice: Computing lead speaks to a wide variety of children across the year to measure the children's understanding of concepts being taught, their attitude and their level of enjoyment.

How the subject lead keeps their own subject knowledge up to date, and how they ensure staff subject knowledge is also up to date: We aim to develop and enhance our subject leads personal interest and passion in Computing through:

- high quality continual professional development (CPD) e.g: Computing Lead network - LDST/STEM Computing.
- networking opportunities through LDST and Sefton
- engagement with the curriculum lead

We aim to ensure all staff's computing knowledge is up to date through:

- staff meetings termly, provision of effective resources and engagement with subject lead.