Learning, Caring and Growing Together in Faith
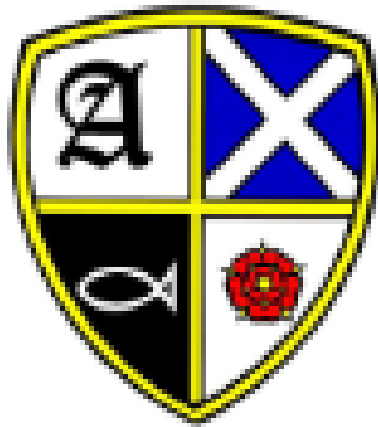
Computing Policy

Handbook

St. Andrew's CE Infant School

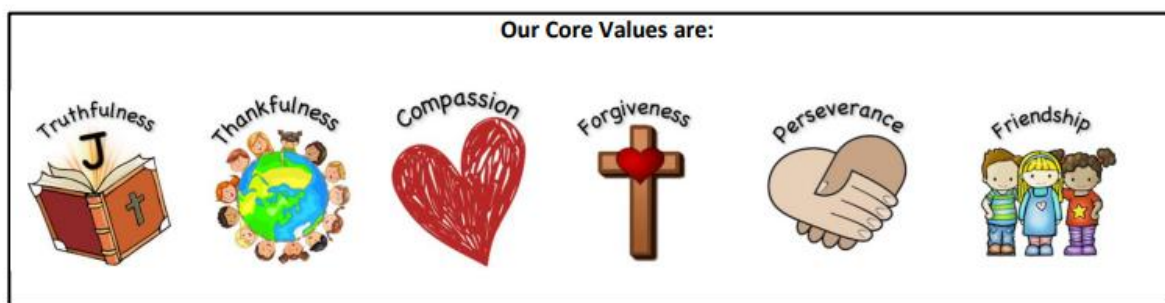'God is my strength in whom I trust.'

Our School Motto

'Learning, Caring and Growing together in Faith'

Our Vision

St Andrew's Infant School is a Christian school where children are happy, nurtured and love learning. Through an inspiring and aspirational curriculum, we strive to ensure our children flourish spiritually, academically, and creatively to become confident, resilient learners. Everyone here learns, cares and grows together in faith.

Our Values

Our Core Values are:

Truthfulness   Thankfulness   Compassion   Forgiveness   Perseverance   Friendship

Our Christian Narrative:

'God is my strength in whom I trust.' Psalm 18

Our Bible story:

The parable of the Two Builders - Matthew 7

'God is my strength in whom I trust.'

Intent

The number one benefit of technology is that it empowers people to do what they want to do. It lets people be creative. It lets people learn things they didn't think they could learn before, and so in a sense it's all about potential.' – Steve Ballmer

At St Andrew's it is our intention to enable children to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way. We want children to know more, remember more and understand more in computing so that they leave our school computer literate. Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to achieve this. We intend to provide a computing curriculum that develops pupil's learning and results in the acquisition of knowledge of the world around them that ensures all pupils can understand and apply the fundamental principles and concepts of computer science.

Our computing curriculum allows our children to live safely in an increasingly digital British society where pupils can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. They develop a range of transferrable skills which can make them active participants in a digital world and prepare them for the world of work. We aim to encourage children to use, express themselves and develop their ideas through a range of information technology. Our Computing curriculum promotes diversity and inclusion and support spiritual development.

Implementation

Within the revised EYFS statutory framework, the Technology strand within Understanding the World has been removed. However, there are opportunities within each area of the framework to enable practitioners to effectively prepare children for studying the computing curriculum. We teach our children to recognise that a range of technology is used in places such as homes and schools and that they select and use technology for particular purposes. We provide our pupils with opportunities to use a range of devices such as laptops, tablets, cameras, interactive whiteboards and programming toys. Children gain confidence and begin to develop their basic computing skills through the many opportunities we provide. Children in EYFS are taught about rules and why we have them, knowing right from wrong and trying to behaving accordingly, especially whilst online.

Our Key Stage One Computing curriculum is taught both discretely and cross-curricular, using a scheme of work from Purple Mash, adapted to ensure all the parts of the National Curriculum are fulfilled. It is comprised of a balanced coverage of three aspects: Digital Literacy, Information Technology and Computer Science.

The children will have experiences of all three strands in each year group, but the subject knowledge imparted becomes increasingly specific and in depth, with more complex skills being taught, thus ensuring that learning is built upon. Knowledge and skills are mapped across each topic and year group to ensure systematic progression.

We have a class set of iPads for shared class use ensuring that all year groups have the opportunity to use a range of programs for many purposes across the wider curriculum, as well as in discrete computing lessons.

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Units of work are carefully sequenced to build on prior knowledge and concepts, developing digital literacy, an awareness of online safety and a progressive knowledge of computer science. As well as the benefits of ICT, we are also aware of the risks. This is why we prepare our children to stay safe online through the use of termly e-safety lessons.

Celebrating Achievements

We recognise the importance of celebrating children's computing work. Relevant Computing work, such as art using digital media, can be displayed on year group learning journey displays and on the hall displays which are updated regularly. Achievements are celebrated when pupils share their work for the BOB Book of Brilliance.

Presentation of Work

All work completed using the Purple Mash software is stored in children's individual folders. Any additional work is stored within the Computing Evidence Books for Key Stage 1.

Resources

Each class has a set of 12 iPads (red covers for EYFS and Year 1, black covers for Year 2). These are stored centrally in the charging docks near the staff room/community room. Every member of staff and every child has a login to use Purple Mash to deliver the Computing curriculum. There are a selection of books for teaching e-safety as well as a range of online resources.

Additional Documents

In addition to this Computing Policy, the following documents are in place to support the implementation of Computing:

- Year Group Overviews
- Computing Subject Overviews
- Computing Progression Document
- Computing Knowledge Organisers for each unit of work
- Computing Knowledge Hands for each unit of work in Key Stage One
- Medium Plans

Planning

The planning of the computing curriculum is organised through:
- Long term planning is demonstrated through the yearly overviews which show the organisation of computing topics across the year for each year group.
- Medium term planning is demonstrated through termly knowledge organisers which reveal the progression of knowledge, skills and understanding within each topic.
- Purple Mash lesson plans are used for short term planning. Teachers may modify these plans to meet the needs of the pupils in their class.

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Impact

Staff identify the impact of our curriculum through a variety of ways.
These include:
- Observations
- Regular recall and retrieval activities
- Targeted questioning
- Marking and feedback
- Teacher assessment against key performance indicators
- Pupil interviews
- Analysis of data

Formative Assessment

Teachers use their professional judgement to decide what children need to learn and when to move on to the next step of learning in Computing. Teacher assessments will be made at the end of each lesson on either Purple Mash when marking children's work or in a Computing Evidence book. Formative assessment (or responsive teaching) is a key feature of lessons. Teachers use effective questioning to determine the extent of children's understanding before deciding on what the children need next (support, extension, next steps).

Summative Assessment

At the end of each half term, there are 'Summative Assessments' that consist of a task or a range of questions based on what the children have learned in that half term. These allow teachers to assess the children's understanding away from the point of teaching and to see how well the learning is embedded.

We use these strategies to review our curriculum offer, inform our strategic action planning and make adaptations where necessary. Our approach and monitoring of the curriculum results in a fun, engaging, and high-quality computing education. The quality of children's learning is evident in their Purple Mash folders, where pupils can share and evaluate their own work, as well as that of their peers. Evidence such as this is used to feed into teachers' future planning, and as a cross-curricular approach continues to be developed, teachers are able to revisit misconceptions and knowledge gaps in Information Technology, Computer Science and Digital Literacy when teaching other curriculum areas. This supports varied paces of learning and ensures all pupils make good progress.

Every child leaves our school with typing skills and keyboard shortcut awareness. Much of the subject-specific knowledge developed in our computing lessons equip pupils with experiences which will benefit them in junior school, secondary school, further education and future workplaces. From research methods, use of presentation and creative tools and critical thinking, computing at St Andrew's C of E Infant School gives children the building blocks that enable them to pursue a wide range of interests and vocations in the next stage of their lives.

Features of an effective Computing Teaching Sequence

- Prior learning visited at the beginning of each lesson to build on new learning.
- New vocabulary introduced and explained.
- Opportunities for questions and contributions from children.
- Every child involved, using their own iPad for 'plugged' lessons.
- High quality resources utilised.

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- Good understanding and knowledge of content from staff.
- Opportunity to reflect on learning.

Roles and Responsibilities

Class Teacher
- Follow medium-term plans that detail the sequence of lessons and indicate the assessment focus
- Assess pupils work in each lesson in the Computing Evidence Book (KS1)
- Plan learning that is in response to assessment information
- Makes a judgement at the end of each unit of work to inform end of year assessments.

Subject Leader

Throughout the year the whole staff is encouraged to feedback information and ideas to the computing Leader, such as how a particular topic is progressing and the work that children are undertaking, comments upon the availability and suitability of resources and any other relevant comments about the overall structure of the Purple Mash Computing Scheme of Work.
- Co-ordination of computing provision throughout the school.
- Update staff with current trends and developments.
- Identify appropriate professional development (PD) for all staff.
- Identify school needs re- computing education.
- Ordering and purchasing of computing resources.
- Co-ordinating assessment for computing.
- Identify cross curricular opportunities.
- Monitor effectiveness of computing provision

SLT
- Monitors planning and assessments
- Monitors high quality teaching and learning
- Ensures policy is implemented

Inclusion

The children with Special Needs will have access to the full computing curriculum. Some children may find difficulty using different types of computing equipment for example, due to their physical disability or medical needs. Additional support will be given to these children enabling them to take a full and active role. Tasks will also be adapted where necessary so that the children can succeed. Sensitive grouping should also minimise difficulties.

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St. Andrew's C of E Infant School

Computing Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
All			Safer Internet Day			
EYFS	Take a photo using both cameras. Be able to crop a photo.	Explore using Bee Bots to move forward, backwards, right and left.	**Safer Internet Day** **Smartie the Penguin** (1 lesson) ChildNet Recognise simple examples of personal information and trusted people. Recognise some ways the internet can be used to communicate. Identify ways that people can be unkind online.	Begin to identify with support, examples of technology in the classroom and use these appropriately	With support, begin to use username and password	Type name/sentence using keyboard. Add to an existing image. Keyboard skills – Purple Mash
Year 1	**Unit 1.1 Online Safety and Exploring Purple Mash** (4 lessons) Various **Unit 1.2 Grouping and Sorting** (2 lessons) 2DIY 4 + 2 = 6 lessons	**Unit 1.3 Pictograms Unit** (3 lessons) 2Count **Unit 1.4 Lego Builders** (3 lessons) 2DIY 3 + 3 = 6 lessons	**Safer Internet Day** **Jessie and Friends** (1 lesson) ThinkUKnow **Unit 1.6 Animated Stories** (5 lessons) 2Create a Story 1 + 5 = 6 lessons	**Unit 1.5 Maze Explorers** (3 lessons) 2Go **Unit 1.9 Online Safety Technology Outside School** (2 lessons) Various **& Old MacDonald had a Phone** (1 lesson) Book 3 + 2 + 1 = 6 lessons	**Unit 1.7 Coding Unit** (6 lessons) 2Code 6 lessons	**Unit 1.8 Spreadsheets** (3 lessons) 2Calculate **Chicken Clicking** (1 lesson) Book 3 + 1 = 4 lessons
Year 2	**Unit 2.1 Coding** (6 lessons) 2Code 6 lessons	**Unit 2.2 Online Safety** (3 lessons) Various **Unit 2.3 Spreadsheets** (4 lessons) 2Calculate 7 lessons	**Safer Internet Day** **Lee and Kim** (1 lesson minimum) ThinkUKnow **Unit 2.4 Questioning** (5 lessons) 2Investigate/2Question	**Unit 2.5 Effective Searching** (3 lessons) Browser **Unit 2.7 Making Music** (3 lessons) 2Sequence 3 + 3 = 6 lessons	**Unit 2.6 Creating Pictures** (5 lessons) 2Paint a Picture **Troll Stinks** (1 lesson) Book 5 + 1 = 6 lessons	**Unit 2.8 Presenting Ideas** (4 lessons) Various **#Goldilocks** (1 lesson) Book 4 + 1 = 5 lessons

Example of Formative Assessment

Date:

Computing – 2.1 Coding Lesson 1

L.O. I can explain that an algorithm is a set of instructions.
   I can describe the algorithms they created.
   I can explain that for the computer to make something happen, it needs
   to follow clear instructions.

Assessment

Name	Below expectations	Met expectations	Above expectations
Name			
Name			
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Example of Summative Assessment

End of Unit Assessment Autumn Term 1	Computing – Coding		
Assessment Task	• To understand what an algorithm is. • To know what debugging means. • To debug simple programs.		
Expected knowledge and skills for Year 2			
Children know that an algorithm is a precise set of instructions. Children know that for the computer to make something happen, it needs to follow clear instructions in the correct sequence. Children know that a bug is a problem in an algorithm. Children know that debugging is a way to 'fix' the problem (bug) Children know that it is possible to predict what will happen in an algorithm by 'reading' the code. Extended Knowledge Children know that different parts of a programme respond to specific events and cause specific actions.			
(Please initial children in correct column)	Below Y2	At Y2	At Y2+

Medium Term Plan Template example

Purple Mash Computing Scheme of Work – Unit 2.1
Coding – Medium-Term Plan

Medium-Term Plan

Lesson	Title	Aims (Objectives)	Success Criteria
1	Algorithms	• To understand what an algorithm is. • To create a computer program using an algorithm.	• Children can explain that an algorithm is a set of instructions. • Children can describe the algorithms they created. • Children can explain that for the computer to make something happen, it needs to follow clear instructions.
2	Collision Detection	• To create a program using a given design. • To understand the collision detection event.	• Children can plan an algorithm that includes collision detection. • Children can create a program using collision detection. • Children read blocks of code and predict what will happen when it is run.
3	Using a Timer	• To understand that algorithms follow a sequence. • To design an algorithm that follows a timed sequence.	• Children can create a program that uses a timer-after command. • Children can explain what the timer-after command does in their program. • Children can predict what will happen in a program that includes a timer-after command.
4	Different Object Types	• To understand that different objects have different attributes (properties). • To understand what different events do in code.	• Children can create a computer program that includes different object types. • Children can modify the attributes (properties) of an object. • Children can use different events in their program to make objects move.
5	Buttons	• To create a program using a given design. • To understand the function of buttons in a program.	• Children can create a computer program that includes a button object. • Children can explain what a button does in their program. • Children can modify the attributes (properties) of a button to fit their program design.
6	'Smelly Code' Debugging	• To know what debugging means. • To understand the need to test and debug a program repeatedly. • To debug simple programs.	• Children can explain what debug (debugging) means. • Children can use a design document to start debugging a program. • Children can debug simple programs.

2simple

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St Andrews C of E Infant School

Spirituality in...

Moral

Compassion

Ethics

Appreciation

Respect

Creativity

Computing

Patience

Innovation

Reflection

Celebration

Change

Value

Inspiration

Transform

Confidence

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