ICT at

St Andrew's

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ICT at St. Andrew's

Timetable

ICT is taught on a weekly basis. Mr Dix (external ICT teacher) teaches the majority of these lessons and exclusively teaches Year 4 and 6. Mr Johnson (ICT co-ordinator) teaches two of the classes. It is encouraged for all teachers to incorporate ICT into lessons regularly.

Content of ICT lessons

Digital Computer Literacy - Digital Computer Literacy is at the foundation of the computing curriculum and should be taught across the curriculum. When planning lessons, it is beneficial to consider incorporating lessons on computers as this will help children practise their keyboard skills; help enhance knowledge of Microsoft Office or Google products and improve their ability to access the school networks (Pupilshare or Google Classroom).

Network and Internet - Every term, each class receives a lesson on Internet safety. This includes how to report problems online, social media awareness, cyberbullying and many more. Children also develop a sound knowledge of how networks operate.

Using ICT - Children will learn how to use different software and hardware to assist in their day to day practice. They will use software to help them build models, create audio files and upload images and videos. They will also use a variety of hardware through school, such as laptops, computers, Chromebooks, iPads and so on.

Making Things Happen - Children will understand algorithms, create animations and repetitive sequences through coding. Most of this will be done through a code-building software known as Scratch.

When planning for your ICT lessons, you should refer to the National Curriculum 2014 and the Rising Stars Computing Curriculum. The Rising Stars Computing Curriculum is on Staffshare.

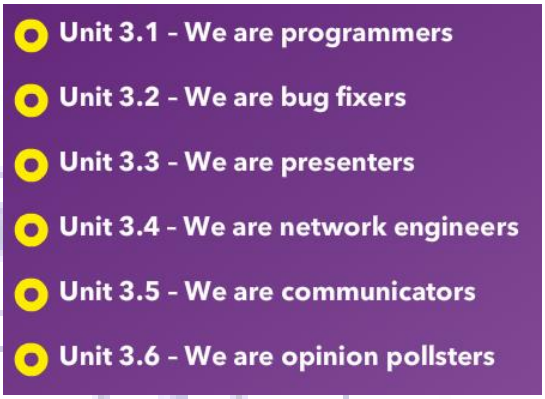
Google Classroom - Every child in school has their own username and password to access Google Classroom. This allows children to complete work on computers in school or at home. You can assign all students, or individuals, with a variety of tasks which children can complete through a number of different Google Apps (explained below).

Google Classroom can be used to set work for any subject, allowing the child to develop their Digital Computer Literacy.

Knowledge Organiser - Each year group with have a knowledge organiser in the front of their book. Children can refer to this find out what they will be learning and the important ('sticky') vocabulary they will learn through the year.

Planning

Rising Stars - At St Andrew's, we use the Rising Stars Computing Curriculum. Each half term consists of one unit and these can be completed in any order. They utilise all of the National Curriculum objectives.



Marking:

Most ICT work is evidenced in books.

Sometimes, verbal feedback is given throughout the lesson. Children are to be given advice on how to improve. Wherever possible, examples will be shown to give students ideas and inspiration.

Students will be expected to self-evaluate and peer assess throughout the topics.

If the teacher has seen work on a computer, and this is not being evidenced in their book, then this can be signed off, similar to a checklist in the children's ICT book.

Assessment

Target Tracker needs to be updated on a termly basis for ICT. In each child's book will be a skills sheet which will be highlighted red, amber or green depending on whether they have acquired that skill.

Ideas for pre-assessment tasks:

Key ideas sheets, working walls/mind maps, Diagnostic Questions.

Intent, Implementation and Impact

Intent

At St. Andrew's the children enjoy a broad and balanced ICT and computing curriculum. The curriculum we use gives pupils pieces of a toolkit which enables them to move forward through their next steps in education and in life. We try to balance ICT skills, new technologies and current technologies in a broad and progressive manner.

ICT is a cross-curricular tool and we encourage children to use their technological knowledge across most subjects. This helps build confidence in pupils and inspires them to think of other ways to solve problems and present their work. We also use different software and hardware resources to ensure that all children feel comfortable and can work in an inclusive environment.

Through the year groups, pupils are given half termly topics based on the Rising Stars Computing Curriculum. We use this as our initial framework and build on this to meet the needs of the children in our community. We keep our key skills at the core of our lessons (such as keyboard and mouse skills and Microsoft Office products) and combine these with the key elements of the topic. This ensures that our pupils have a knowledge rich curriculum which fuses both the key skills and technological knowledge together whilst also challenging pupils to become greater ICT learners. The objectives are progressive and children are able to refer to previous learning from Key Stage 1 on coding, understanding of technology outside of school, e-safety and creating digital content. We care greatly about online safety, both at home and at school. This is a thread which is revisited throughout each term and additionally when required.

Implementation

ICT at St Andrew's is taught once a week either by the ICT lead or by an external ICT teacher who has expertise in teaching ICT at both Primary and Secondary levels. The ICT lead ensures that we have coverage of the National Curriculum and the skills of the Rainbow Continuum by checking long terms plans. Each half term block provides an area of computing in which children learn something new or revisit a skill in order to build their knowledge.

A variety of resources are used to create stimulating and engaging lessons that challenge the pupil's computational thinking. This can mean doing lessons away for the computer. These activities are physical in nature and provide kinaesthetic experiences which help pupils understand abstract concepts and deepen learning. We also actively encourage children to create projects that they can complete from home. Using Google Classroom, teachers can set tasks that require pupils to use Google products (such as Google Docs, Google Slides etc.) to complete these activities.

We use resources and planning from the Rising Stars Computing Curriculum to facilitate our teaching. Using this leads to high quality planning and teaching of the subject.

Lessons are planned to allow all children to access the computing curriculum. The document 'What Greater Depth Looks Like at St Andrew's' allows teachers to plan lessons that will challenge the

most able. ICT is used to support SEND pupils through a variety of software and hardware devices across most subjects. We have also planned lessons to ensure that children are able to learn away from computers (such as observing different building materials in our area or researching different non-computational codes) to give children the ability to flourish under different circumstances.

As with all subjects, there is much information to take in. In order to help children retain key information, we use 'Quick 6' questions at the start of most lessons. These six questions revisit key facts and important information. Regular recall of such facts helps children commit them to their long-term memory, ensuring they will retain the 'sticky knowledge' for the end of Key Stage 2.

ICT 'Sticky Knowledge' – what children need to know by the end of Key Stage 2

- Be able to explore a variety of programs and algorithms.
- Be able work with variables and various forms of input and output, using sequence, selection, and repetition in programs.
- Understanding of computer networks, including the internet.
- Be able to select, use and combine a variety of software on a range of digital devices to design and create a range of programs.
- How to use technology safely, respectfully and responsibly.

Assessment is ongoing throughout each ICT topic. Most lessons follow an objective that can then be marked off if this has been achieved. If a child has a misconception these is addressed in lesson or sometimes using catch up at the next available time. Summative assessment can be seen in a number of different ways in lessons. For example, a pupil may be asked to independently open, save or print a program.

Impact

Each child has their own ICT books which depicts their learning journey through each topic. Knowledge and understanding is then monitored by assessing the work according to the outcomes. Teachers can reflect upon this work and clarify any misconceptions if necessary.

Throughout their learning in Key Stage 2, we believe it is important that children develop a confident understanding of computer literacy. Pupils should be able combine their mouse and keyboard skills with their knowledge of Microsoft Office or Google products to create a variety of programs and content to an appropriate standard.

Having a good understanding of computers and how they work will set children up for their next step in education and will also open the pathway to many career opportunities in the future.

The outcomes of pupils will be monitored by the class teacher, subject lead and SLT through assessment and marking, tracking, book scrutiny and pupil interviews.

ICT Long Term Plan				
	Year 3	**Year 4**	**Year 5**	**Year 6**
Aut 1	E-safety Exploring networks	E-safety We are Software Designers	E-safety We are Architects/Bloggers	E-safety Devices, Networks and Dragons
Aut 2	Programmes and Bug Fixers	We are Toy Designers	We are Architects/Bloggers	Devices, Networks and Dragons
Spr 1	We are Presenters	We are Musicians	We are Web Developers	Computation thinkers
Spr 2	We are Opinion Pollsters	We are HTML Editors	We are Cryptographers	Travel writers
Sum 1	We are communicators	We are Co-Authors	We are Artists	Festival planners

ICT Policy

1. Aims and objectives

1.1 ICT is changing the lives of everyone. Through teaching ICT we equip children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed by technology. We enable them 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. ICT skills are a major factor in enabling children to be confident, creative and independent learners.

1.2

The aims of ICT are to enable children:

- to develop ICT capability in finding, selecting and using information;
- to use ICT for effective and appropriate communication;
- to monitor and control events both real and imaginary;
- to apply hardware and software to creative and appropriate uses of information;
- to apply their ICT skills and knowledge to their learning in other areas;
- to use their ICT skills to develop their language and communication skills;
- to explore their attitudes towards ICT and its value to them and society in general. For example, to learn about issues of security, confidentiality and accuracy.

2. Teaching and learning style

2.1 As the aims of ICT are to equip children with the skills necessary to use technology to become independent learners, the teaching style that we adopt is as active and practical as possible. While at times we do give children direct instruction on how to use hardware or software, the main emphasis of our teaching in ICT is for individuals or groups of children to use computers to help them in whatever they are trying to study. ICT is a tool which feeds into the curriculum. So, for example, children might research a history topic by using a Chromebook, or they might investigate a particular issue on the Internet. Children who are learning science might use the computer to model a problem or to analyse data. We encourage the children to explore ways in which the use of ICT can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved etc.

2.2 We recognise that all classes have children with widely differing ICT abilities. This is especially true when some children have access to ICT equipment at home, while others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways, by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty;
- providing resources of different complexity that are matched to the ability of the child;
- using classroom assistants to support the work of individual children or groups of children.

3. ICT Curriculum planning

3.1 The school uses the Rising Stars scheme of work for ICT as the basis for its curriculum planning. We have adapted the national scheme to the local circumstances of the school.

3.2 The Rising Stars areas of study are adapted to fit our circumstances and ensure the school has coverage of the National Curriculum requirements. ICT is taught by an external teacher who covers all six of the Rising Stars units (one per half term). Two classes are taught by the ICT Subject leader

3.3 The lessons and skills taught in ICT build upon the prior learning of the children. While there are opportunities for children of abilities to develop their skills, knowledge and understanding in each activity area, there is progression built into the planning so that the children are increasingly challenged as they move up through the school.

3.4 Teachers also benefit from Continued Professional Development through training within school and attending courses outside of school. The ICT coordinator is up to date with new developments and staff share good practice to enhance the learning in ICT.

4 Contribution of ICT to teaching in other curriculum areas

ICT is a great tool to assist with learning in all curriculum areas however there are a number of subjects where technology can help improve significantly.

4.1 Literacy

Both Microsoft Office and Google Products allow children to write and edit their work, using tools such as spellcheck and thesaurus to give them more autonomy over their work. We also use Dragon software to help those children who struggle to write in lessons.

4.2 Maths

There are many online resources, such as TT Rockstars and My Maths, that help children revise topics they may have cover in class. Microsoft Excel and Google Sheets also allow children to create calculations, charts and graphs to analyse.

4.3 Personal, social and health education (PSHE) and citizenship

ICT contributes to the teaching of personal, social and health education and citizenship. Children learn about the benefits of internet safety; the importance of security and how to deal with problems, such as social media and cyber-bullying, effectively.

5 Internet and Google Classroom

The school encourages the use of the Internet and Google Classroom as we believe they greatly enhance children's access to learning. The school is however, aware of the inappropriate nature of some material available via the Internet and therefore all such access is closely monitored.

6. Teaching ICT to children with special needs

6.1 At St Andrew's Junior School we teach ICT to all children, whatever their ability. ICT forms part of our school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. In some instances, the use of ICT has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in ICT, we take into account the targets in the children's Personal Provisional Plans (PPPs).

7. Assessment and recording

7.1 Children's work is recorded in their ICT books. Sometimes this is handwritten though sometimes this can be printed off from computers. In the front of ICT books, each year group has an assessment sheet detailing the progression of skills for that particular year group. This sheet will be filled in according to a RAG (Red/Amber/Green) or Traffic Light system. At the end of a term, teachers will feedback the children's progress to the subject leader through Target Tracker.

7.2 The ICT subject leader keeps samples of the children's work in a portfolio. This demonstrates the expected level of achievement in ICT for each age group in the school.

8. Resources

8.1 St Andrew's has a computer suite with 17 personal computers that are all linked to a network server. The ICT suite also contains a set of 15 pupil laptops, with wireless capabilities to use anywhere in school, and a set of 15 iPads, for use anywhere in the school. Furthermore, the school has 60 (2 class sets) of Chromebooks that are used on a daily basis. The Chromebooks can also be booked to use for extra-curricular purposes. Additionally, each classroom (including China and Jigsaw) has an interactive white board which greatly enhances teaching and learning across the curriculum.

8.2 In addition to a school software audit, St Andrew's subscribes to many educationally beneficial software programs and websites.

8.3 A complete list of hardware resources can be found as an appendix to this document.

9. Monitoring and review

The monitoring of the standards of the children's work and of the quality of teaching in ICT is the responsibility of the ICT subject leader. The ICT subject leader is also responsible for supporting colleagues in the teaching of ICT, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The ICT subject leader has specially-allocated time for carrying out the vital task of reviewing samples of the children's work.

STICKY KNOWLEDGE - ICT - Whole school overview

By the End of ….., you will know:	Y3	Y4	Y5	Y6
Network and Internet	- how to communicate on the internet safely and know how to be SMART online. - how computers are connected in school. - how data is passed across networks	- how to identify trustworthy information online. - how to edit a web page using HTML.	- what page rank is and how it works. - how to write and edit your own blog.	- how to state the source of information found on the Internet.
Using ICT	- how to create and name new folders, with support.	- how to compose your own musical piece using computer software. - how to record and present data.	- how to create a 3D sculpture using computer software. - how to add images, audio and video to your own web pages.	- how to create a survey using computer software. - how to record and analyse survey results using computer software. - how to plan an app idea and present about it.
Making Things Happen	- how to make your own Scratch project. - how to identify bugs in Scratch projects (Green, Orange and Purple)	- how to create your own simple game using coding. - how to make animated images using coding.	- how to encrypt and decrypt a variety of ciphers (with and without a computer) - how to plan, program, edit and test your own game using computer software.	- how to create a web page for your app. - how to plan and create an app interface.
Computer Literacy	- how to use Office products (such as Microsoft Word, Microsoft PowerPoint and Microsoft Excel) and where to save them on the Pupilshare.	- how to use a spreadsheet to record data and produce graphs independently.	- how to create artwork using Microsoft or Google products.	- how to create a survey using computer software. - how to record and analyse survey results using computer software.

What does Greater Depth look like in ICT?

Characteristics of Greater Depth ICT:

- Children who approach problem solving situations with persistence, resilience and confidence.
- Children who take part in extra-curricular activities inside or outside of school to further strengthen their computing skills. E.g. Touch type, create PowerPoint presentations for the class.
- Children who have a firm grasp of Microsoft products (Word, PowerPoint, Excel etc.) and can use or combine these for a variety of purposes.
- Children who show a comprehensive understanding of coding and can work with various forms of input and output confidently.
- Children who are able to confidently evaluate the validity of a website and can state the source of the information found on the internet.
- Children who know how to navigate the internet safely and effectively and know what a problem looks like and how to report it immediately.
- Children who fully understand, explore and apply skills and ideas in different ways, in different situations and in different subjects.
- Children who can apply their knowledge from other subjects to help them solve technological problems.
- Children who are able to constantly review, analyse and evaluate their work and will make improvements without being asked.

Resources

Scratch:

Scratch is a software used throughout the Junior years. With Scratch, you can program your own interactive stories, games and animations. It helps young people to think creatively, reason systematically and work collaboratively.

Scratch projects can be made online: https://scratch.mit.edu/

If you are looking for ideas on how to use Scratch in lessons: https://sip.scratch.mit.edu/

Audacity: Audacity is a free, downloadable audio-editing software where children can create their own musical compositions.

Dance Mat Typing: This is a series of games that encourage a fun way to learn touch typing. Many ICT lessons begin with 10 minutes of practice on Dance Mat Typing to help develop their keyboard skills.

https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/z3c6tfr

SketchUp: A 3D model-building software used mainly in Year 5.

Twinkl: Twinkl has lots of extra resources and mastery activities that challenge children further.

BBC Bitesize: Along with Dance Mat Typing, BBC Bitesize contains lots of videos and information that are very useful when teaching ICT lessons.

Microsoft or Google Apps

Microsoft Word or Google Docs – A word-processing program primarily used for creating documents such as letters, stories, tests and many more.

Microsoft PowerPoint or Google Slides – A presentation tool that works like a slide show, used to convey a message or tell story.

Microsoft Excel or Google Sheets – A spreadsheet software used to make calculations and create graphs and tables.

Google Forms – An app where you can create surveys or quizzes for other people to answer.