Our Computing Intent, Implementation and Impact at St. Andrew's

"I have come that they may have life, and have it to the full. John 10:10"

Intent:

We want all the children at St. Andrew's to flourish today and in the future. The intent in computing is to deliver a curriculum which is accessible to all and that will maximise the outcomes for every child so that they know more, remember more, apply more and understand more. Our aim is to have a creative computing curriculum that is progressive, builds on previous learning and encourages children to be responsible digital citizens. Our curriculum, linked with the objectives of the National Curriculum, will enable children to learn new skills, be fully inclusive and help to prepare them for secondary school and the world of employment.

Implementation:

- Curriculum design- Computing is taught through three strands- Computer Science, Information Technology and Digital Literacy.
- Scheme- We follow the Teach Computing Scheme to ensure progression and the revisiting of skills.

KS1	KS2
Children use technology purposefully to create, organise, store, manipulate and retrieve digital content Children understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They create and debug simple programs. They use logical reasoning to predict the behaviour of simple programs.	Children use search technologies effectively. They 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. Children will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. They learn to solve problems by decomposing them into smaller parts. They 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. Appreciate how search results are selected and ranked.

- Online safety is taught throughout the year and highlighted during our annual Online Safety Day through assemblies and workshops.

Key Stage 1	Key Stage 2
Children recognise common uses of information technology beyond school. Children use technology safely and respectfully, keeping personal information private. Children identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Children have an awareness of AI and begin to recognise AI created images and information.	Understand the opportunities networks offer for communication and collaboration. Be discerning in evaluating digital content, especially images and information created by AI sources. Use technology safely, respectfully and responsibly. Children recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Impact:

Pupils will use technology confidently, creatively and safely. They understand the principles of computational thinking and can apply coding, digital creation and problem solving skills independently. They will be more able to discuss key vocabulary, using examples and curriculum links as they move up the school. Children will also have the knowledge and resilience to deal with situations as they arise in the online world. They will be able to share their online habits and learn and reflect upon this. They will be able to create a set digital rules that will help to keep them safe online, both at school and at home. As evidenced in surveys, oracy based discussions, assemblies and competitions, children will have become more aware of how to keep safe and use their real life skills and values in the online world. Progression throughout KS1 and KS2 will ensure that pupils leave Year 6 as capable, confident digital citizens, ready for the connected world.

Key skills, knowledge and vocabulary:

Essential concepts and vocabulary - built upon each year

Lower KS1	**Upper KS1 to LKS2**	**Lower KS2 to Upper KS2**
Algorithm	Sequence	Simulation
Programming	Digitised	Selection
Instructions	Input	Repetition
Execute	Output	Variables
Data	Fault	Strings
Code	Organising	Logical reasoning
Log on	Storing	Networks
Digital information	Manipulating	Routers
Search engine	Logical reasoning	Hubs
bugs	Predict	Servers
Debugging	Programming language	HTML
Internet	KB - kilobyte	Python
Software	MB - megabyte	Java
Hardware	GB - Gigabyte	Processor
Memory	TB - Terabyte	
Storage		
Cloud		

Information Technology

Y1	Word processing Internet searches. Importing an image and manipulation.	Google Classroom
Y2	Data storage. Saving and retrieving Image manipulation Presentation software (Slides) Word processing (Docs) Google Draw	Mathletics Spelling Shed Times table Rockstars Google Classroom
Y3	Data storage. Saving and retrieving Presentation software - digging deeper (Powerpoint and Slides) Word processing - digging deeper (Docs and Word) Google Draw Networking and Communicating digitally	Mathletics Spelling Shed Times table Rockstars Google Classroom
Y4	Data storage. Saving and retrieving Presentation software - digging deeper (Powerpoint and Slides) Word processing - digging deeper	Mathletics Spelling Shed Times table Rockstars Google Classroom

	(Docs and Word) MS Publisher Introduction to MS Excel and Google Sheets Google Draw 2D Design	
Y5	Develop skills with MS office Word, Excel, Powerpoint, Publisher Develop skills with Google Apps Docs, Slides, Draw, Sheets Begin to integrate software 2D Design and TinkerCAD Website design	Mathletics Spelling shed Times table Rockstars Google Classroom
Y6	Develop skills with MS office Word, Excel, Powerpoint, Publisher Develop skills with Google Apps Docs, Slides, Draw, Sheets Begin to integrate software 2D Design and TinkerCAD Website design	Mathletics Spelling shed Times table Rockstars Google Classroom

Digital Literacy

There are a range of resources which teachers can access to support online safety learning in their classrooms. Some of these are listed below.

KS1	KS2
Smartie the Penguin Lee and Kim Jessie and Friends Smart Crew Code.org unplugged resources SWGfL Project Evolve resources	Jessie and Friends Smart Crew Google Legends Code.org unplugged resources SWGfL Project Evolve resources