Computing

'Change is the law of life and those who look only to the past or present are certain to miss the future '
John F. Kennedy

At Education South West our purpose is to: 'educate pupils so they can lead great lives'. Our Computing curriculum is inspiring, challenging, deep and broad, nurturing talent and enabling social mobility so that all pupils:
• develop transformational knowledge and skills that take them beyond their experience.
• strengthen their academic knowledge and cultural capital through the acquisition of a broad and deep vocabulary underpinned by a focus on Tier 2 and Tier 3 words.
• shape their character and scholarship to prepare them for life so that they can make a positive contribution to society and live safely and independently.

Our Computing curriculum intends to develop versatile, independent, safe and respectful users of technology. In line with the 2014 National Curriculum for Computing, our aim is to provide a high-quality computing education which equips children to apply 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. Learners will have the opportunity to gain an understanding of computational systems of all kinds, whether or not they include computers.
Our children will gain key knowledge and skills in the three main areas of the computing curriculum: computer science (programming and understanding how digital systems work), information technology (using computer systems to store, retrieve and send data and information) and digital literacy (evaluating digital content and using technology safely and respectfully). The objectives within each strand support the development of learning across the key stages, ensuring a solid grounding for future learning and beyond.

EYFS: In the Early Years, children will gain experience of working with a range of digital devices such as remote-control toys, light box, PC's or laptops and iPads. They will develop confidence and basic digital literacy skills such as simple mouse or track pad control, and using an iPad to access a QR code. Within their learning across the curriculum, they will be exposed to the language of computational thinking. All learning will support 'school readiness' and 'broad range of knowledge and skills' described in the Statutory Framework for EYFS March 2021.

KS1: In key stage one, children will develop their knowledge and understanding of technology and information technology. Through experiencing a broad range of media, they will develop firm foundations of basic digital literacy skills and by the end of year 2 will be competent in saving and retrieving work. Foundations of understanding data and information will be built through developing children's ability to sort, group and assign attributes. In programming, children will understand, and create simple algorithms both real life and to be executed as a simple program on a device. Through following and creating simple computer programs that focus on sequence, children will practise and develop skills of debugging and logical reasoning.

KS2: In lower key stage two, pupils will develop their knowledge and understanding of computer networks and the internet, the network of networks. Digital literacy skills will be further developed through exposer to a broad range of digital media. Children will group and sort data in more complex ways and develop their knowledge and understanding of what data is and why it is collected over time. In programming, children will design and create more complex algorithms to solve problems which include both sequence and repeats (irritation). Children will gain experience of both block and text-based coding.
In upper key stage two, children will identify and explore how information is shared between digital devices and how the world wide web can be used to communicate and searched to find information. Children will further their experiences of working with a broad range of digital media. Knowledge and understanding of the differences between data and information will be developed and children will organise data in different forms and use data and information to ask and answer questions. In programming, children will develop their knowledge of computer programs through solving problems containing selection and variables. Through block, text-based, and physical programming children will learn to identify the four fundamental principles of computer programming: sequence, irritation, selection and variables.

Planning

Units of work taken from the National Centre for Computing Education (NCCE) – Teach Computing Curriculum (TCC)

Supported by the iLearn2 teaching resources

	TERM1	TERM 2	TERM 3	TERM 4	TERM 5	TERM 6
	Computing systems and networks	Creating media	Programming A	Data and information	Creating Media	Programming B
Class 1	**Computer discovery**	**Mouse and Keyboard skills**	**Early Programming**	**Digital Photograph**	**Digital art and design**	**An introduction to programming**
Materials to support delivery	iLearn2 EYFS Computer discovery	iLearn2 Y1 Mouse and Keyboard Skills	iLearn2 EYFS Early Programming	iLearn2 EYFS Digital Photos and Videos	iLearn2 EYFS Digital Art and Design iLearn2 Y1 Digital Art	iLearn2 Y1 An Introduction to Programming
Class 2 (KS1 Cycle B)	**IT around us**	**Digital Photography**	**Robot Algorithms**	**Pictograms**	**Presentation Skills**	**An introduction to quizzes**
Materials to support delivery	TCC iLearn2 Y2 Recognise uses of technology Internet Research Typing	TCC	TCC	TCC	ESW	TCC iLearn2 Y2 Scratch Jr Activity Pack 2
Class 3 (LKS2 Cycle A)	**Connecting Computers**	**Stop-frame animation**	**Sequencing sounds Scratch**	**Branching databases**	**Desktop publishing**	**Events and actions in programs**
Materials to support delivery	TCC Working with Book Creator iLearn2 Y4 EBook Creation	TCC iLearn2 Y2 Animation	TCC	TCC	TCC	TCC
Class 4 (LKS2 Cycle B)	**The internet**	**Audio editing**	**Repetition in shapes**	**Data logging**	**Photo editing**	**Repetition in games**
Materials to support delivery	TCC iLearn2 Y5 Computer Networks and the Internet	TCC	TCC	ESW- Arduino Science Journal Presenting Data in Excel	TCC	TCC

Class 5 (UKS2 Cycle A)	Sharing information	Video editing	Selection in physical computing	Flat-file databases	Vector drawing	Selection in quizzes
Materials to support delivery	TCC ILearn2 Computer Networks and the Internet Working together within Teams on collaborative projects	TCC	ESW BBC MicroBits	TCC	TCC iLearn2 Y6 Graphic Design	TCC

NOTES and guidance for staff

Teaching and learning resources and support: ESW-PrimaryComputingCurriculumTeam (Joining code: 0ghar7o)

National Centre of Computing Education (NCCE) Teaching Computing Curriculum - https://teachcomputing.org/ All learning materials have been downloaded and added to the Team

iLearn2 – https://www.ilearn2.co.uk/signin-html/ ESW Login: Username: ESWComputing Password: 2021ESW

CPD Links

The PrimaryComputingCurriculum Team will be used to support CPD

https://www.barefootcomputing.org/docs/default-source/at-home/quick--guide-to-computational-thinking.pdf

https://www.youtube.com/playlist?list=PLzdnOPI1iJNcsRwJhvksEo1tJqjlqWbN-

https://teachcomputing.org/courses