KS2 ICT Scheme of work

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Cross Curricular Elements of the Framework	
Literacy	Reading information, using correct ICT vocabulary, spelling ICT vocabulary,
Numeracy	Recording and analysing data.
ICT	Practising skills, creating media and writing simple programmes for animations and sounds.

Module Title: Computing systems and networks - Connecting computers		
Term 1	**Teaching and Learning Resources**	**Outcomes**
Learners will develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will also compare digital and non-digital devices. Next, learners will be introduced to computer networks, including devices that make up a network's infrastructure, such as wireless access points and switches. Finally, learners will discover the benefits of connecting devices in a network.	**PPT / resources available from** **https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers**	**NC Outcomes:** ●use sequence, selection, and repetition in programs; work with variables and various forms of input and output ●understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web; and the opportunities they offer for communication and collaboration ●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.

Module Title: Creating Media - Scratch		
Term: 2	**Teaching and Learning Resources**	**Outcomes**

Learners will use paper and pens to create a flip book animation. THen they will be introduced to Scratch - an online platform to explore different ways to make animations and programme Sprites. THey will animate words, names, create a scene and design a clicker game then create a page for a class storyboard.	flip book (paper and pens) Laptops Scratch online app (log ins to be created for each user)	NC outcomes: ● 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 ● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Module Title: Programming A - Repetition of shapes	
Term: 3	**Teaching and Learning Resources**	**Outcomes**

Learners will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language.	Resources available from https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes Laptops - LOGO application (turtleacademy.com/playground) PPT / Worksheets	NC Outcomes: ● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ● 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 ● 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

Module Title Data and information - Branching databases

Term 4	Teaching and Learning Resources	Outcomes
Learners will develop their understanding of what a branching database is and how to create one. They will use yes/no questions to gain an understanding of what attributes are and how to use them to sort groups of objects. Learners will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it. They will also consider real-world applications for branching databases.	PPT / worksheets / laptops Additional resources available at: https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases	NC outcomes: ●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 ●use technology safely, respectfully and responsibly

Module Title: Creating Media - Desktop publishing		
Term: 5	Teaching and Learning Resources	Outcomes

From lesson 1, learners will become familiar with the terms 'text' and 'images' and understand that text and images need to be used carefully to communicate messages clearly. Learners will be able to give advantages and disadvantages of using text, images, or both text and images to communicate messages effectively. Learners will look at using images and text to communicate a message effectively. Additionally, they will look at desktop publishing. Learners will think about how to make careful choices regarding font size, colour, and type in an invitation. The use of the Return, Backspace, and Shift keys will be explored and learners will be taught how to type age-appropriate punctuation marks. Learners will understand that once content has been added, it can be rearranged on the page. Learners will be introduced to the terms 'templates', 'orientation', and 'placeholders' within desktop publishing software. The learners will create their own magazine template, which they will add content to during consecutive lessons. learners will use Microsoft Publisher to add their own text and images to the magazine template they created. Learners will understand what desktop publishing is and how it is used in the wider world.	PPT slides, Laptops, Microsoft Publisher, exercise book, pens	NC outcome:
		
		  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
		  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

Module Title: Programming B - Events and actions in programs

Term 6	Teaching and Learning Resources	Outcomes
This unit explores the links between events and actions, while consolidating prior learning relating to sequencing. Learners begin by moving a sprite in four directions (up, down, left, and right). They then explore movement within the context of a maze, using design to choose an appropriately sized sprite. This unit also introduces programming extensions, through the use of Pen blocks. Learners are given the opportunity to draw lines with sprites and change the size and colour of lines. The unit concludes with learners designing and coding their own maze-tracing program.	PPT slides, Laptops, Microsoft Publisher, exercise book, pens Additional resources https://teachcomputing.org/curriculum/key-stage-2/programming-b-events-and-actions	NC outcome: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 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 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