KS1

COMPUTING

KNOWLEDGE ORGANISER

Cycle A

KEY SKILLS IN KS1	
Year 1	**Year 2**
- Recognise a range of digital devices. - Select a digital device to fulfil a specific task, e.g. to take a photo. - Name a range of digital devices, e.g. laptop, phone, games console. - Log on to the school computer / unlock the school tablet with support. - Identify the basic parts of a computer, e.g. mouse, keyboard, screen. - Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer. - Open key applications independently. - Save and open files with support. - Add an image to a document from a given folder/source with support.	- Recognise what a computer is (input > process > output). - Recognise that a range of digital devices contain computers, e.g. phone, games console, smart speaker. - Explain what the basic parts of a computer are used for. - Identify and use input devices, e.g. mouse, keyboard; and output devices, e.g. speakers, screen. - Open key applications independently. - Save and open files to/from a given folder. - Add an image to a document from a given folder/source. - Resize an image in a document. - Highlight text and use the arrow keys. - Capture media independently (e.g. take photos, record audio).

KS1 National Curriculum Objectives

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

COMPUTING	
COMPUTER SCIENCE	In computer science, you will understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation You will analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
INFORMATION TECHNOLOGY	Information technology is about the use of computers for functional purposes, such as collecting and presenting information, or using search technology.
DIGITAL LITERACY	Digital literacy is about the safe and responsible use of technology, including recognising its advantages for collaboration or communication.

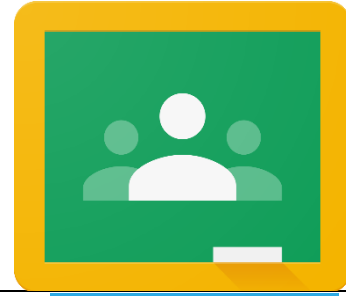| What apps will I use?	
Google Docs – Word Processing	
Google Drawings – Graphics and Publications	
Google Slides – Presentation	
Google Sheets – Spreadsheets	
Google Sites – Web-page creation	

Web-Based Applications and Useful Links

https://classroom.google.com/	
https://www.scratchjr.org/	
https://www.j2e.com/jit5	
https://paintz.app/	

Computer Science

Algorithm - a step-by-step instruction set or formula for solving a problem or completing a task.

Command - a single instruction that can be used in a program to control a computer

Debug - an important part of programming which means to remove bugs/problems.

Program - a set of ordered commands that can be run by a computer to complete a task

Scratch – programming application

Sequence - sequence means arranging instructions for algorithms and programs in a particular order

Information Technology
Digital Literacy

Copy - copying a piece of data or information in order to place it somewhere else on a document

Digital Device - a computer or a device with a computer inside that has been programmed for a specific task

Digital Footprint - a trail of data you create while using the internet.

Document - a document is a form of information that might be useful to a user

Edit - a feature within software that allows the modification of files

Hardware - physical parts of a computer, such as the processor, memory modules and the screen.

Input Device- a piece of hardware used to enter data into a computer such as a keyboard, microphone, sensor or touchscreen.

Output Device - the data or outcome generated by a computer. This could be the solution to a calculation on a calculator or an increase in volume on a speaker. an output device is something you connect to a computer that has information sent to it

Paste - taking data (a word, phrase or image) from one part of a document and placing it somewhere else.

Pattern - a pattern is the repeated or regular way in which something happens or is done

Save - writing data to a storage medium, such as a hard drive or cloud storage.
Software - programs that can be run on a computer
Undo - restore the last editing operation that has taken place

What should pupils already know?

Computer Science
EYFS
Children will have explored instructions and will be beginning to understand sequencing. Children will know that they may have to fix a set of instructions (debug) to make something work correctly. Children will have explored both plugged and unplugged computing.

Information Technology
EYFS
- Use different digital devices. - Recognise that you can access content on a digital device. - Use a mouse, touchscreen or appropriate access device to target and select options on screen. - Recognise a selection of digital devices. - Recognise the basic parts of a computer, e.g. mouse, screen, keyboard. - Select a digital device to fulfil a specific task, e.g. to take a photo

Unit	Assessment Opportunity
Technology Around Us – Logging On	Children should continue to develop the key skills required of a KS1 pupil. Children can label images of technology around a school and in another environment. Children should be given an image of a computer and asked to label parts. Children could write down top 3 tips for using a computer responsibly.
Digital Painting	Children to create a piece of digital art based on their topic or chosen artist.
Programming-Moving a robot and robot algorithms	Children should be asked to create a basic animation where the sprite is programmed to move in a number of directions. They should be given an opportunity to design and build their own algorithms and have an opportunity to debug algorithms.
Digital Writing	Children to be given the opportunity to perform a small writing task using a device that allows them to use a keyboard. This could relate to their topic.

Programming – introduction to animation	The open questions provided above and used throughout this tinkering activity will both help encourage, and gauge, pupils' developing understanding of ScratchJr. Observe pupils in their exploration. Are pupils confident to tinker independently or do they wait for instruction? Do they copy others or try new and novel ways of using the equipment? Listen to their discussion about tinkering with their peers, do they ask others questions about how they did things, do they suggest ideas? Are they open to new ideas and build on other pupils' ideas to discover more.
Data and information – Grouping data	Formative assessment will be used throughout. Assessment opportunities are outlined and should be utilised by the teacher throughout the unit.

Unit Overview	Children EXS
Technology Around Us – Logging On	
Digital Painting	
Programming-Moving a robot and robot algorithms	
Digital Writing	
Programming – introduction to animation	
Technology Around Us – Logging On	

Data and information – Grouping data