Computing Knowledge Sequencing At Alderman Cogan's CE Primary Academy

Intent	Our children at Alderman Cogan's CE Primary Academy access a broad and balanced enriching computing curriculum. Our Intent at Alderman Cogan's school: To make sure the curriculum is implemented and impact is monitored successfully. To make sure teachers use assessment to inform the sequencing of steps in the subject. To make sure teachers are using pre and post assessments to evaluate pupils' background knowledge To make sure pupils develop their knowledge and understanding in logical steps To make sure there is coverage across the curriculum. To ensure any CPD requirements are taken into account and a plan put in place. To make sure teachers have strong subject knowledge and pupils are drawing on knowledge when answering subject-specific questions. To ensure that knowledge and skills are consistently embedded and that there is progression across year groups and key stages.
Substantive Knowledge in Computing	By the end of KS2, children will know how different technology is used in our lives; they will have developed knowledge of Digital Literacy; they will understand the basic principles of programming and coding and they will know how to stay safe using the internet.
Disciplinary Knowledge in Computing	Children experience and discuss the different types of technology in our lives including VR, iPads and Interactive Whiteboards. They will develop Digital Literacy knowledge by primarily using Chromebook technology across the curriculum. They are able to use G-suite to create Slides, Docs, Sheets, Sites and Drawings to create and edit their creations; they can access applications to enhance their learning and creativity such as FlipGrid and SeeSaw; they can programme Bebots and access coding applications and sites such as CS First and they can engage in workshops and discussions about staying safe when using technology

EYFS Building the foundations for Computing			
Nursery			
Computing plays a part throughout every area of the EYFS curriculum. Through developing their **Personal, Social** and **Emotional Development**, **Communication and Language, Expressive Arts and Design**, **Physical Development** and **Understanding of the World** children build the foundations they need to succeed in Key Stage One, when they access the National Curriculum.			
e-Safety	Programming	Digital Literacy	Technology in our lives
Know that the internet is not always safe and appropriate (PSED)	Increasing follow rules and understand why they are important. (PSED, C&L) Use the touch screen smart board and iPads for simple drawing grames (PHY)	Develop their small motor skills so that they can use a range of devices to make marks and express (PD)	Begin to talk about how we use technology and what it is for (C&L) Show some resilience when exploring and using technology in our classroom. (PSED)

EYFS Building the foundations for Computing			
Reception			
Computing plays a part throughout every area of the EYFS curriculum. Through developing their **Personal, Social and Emotional Development, Communication and Language, Expressive Arts and Design**, **Physical Development** and **Understanding of the World** children build the foundations they need to succeed in Key Stage One, when they access the National Curriculum.			
e-Safety	Programming	Digital Literacy	Technology in our lives
I know and talk about how we can stay safe and support our overall health and wellbeing, including sensible amounts of 'screen time'. (PSED, PHY)	I know and can explain reasons for rules. (PSED, C&L)	Explore, use and refine a variety of artistic effects of technological devices to express their ideas and feelings. (EAD)	Talk about how we use technology and what it is for. (C&L) Explore how things work including: IWBs, Beebots, chrome books Show resilience when continue to develop further use of technology in the classroom (PSED)

Ebor Progression of Knowledge, Skills & Vocabulary - Strand Progression														
Control Systems														
FS1		FS2		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Sticky Knowledge	Corresponding Skill	Sticky Knowledge	Corresponding SKill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill

FS1		FS2		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Know how to use a battery operated toy (car)	To be able to control a battery operated toy: move forwards, backwards	**Know how to program a programmable toy**	To move a toy forwards, backwards, left and right	**Understand what algorithms are (& how they are implemented as programs on a digital device)**	Write a simple program (including unplugged/ plugged)	**Understand how we can use logical reasoning to predict the behaviour of a simple program.**	Use logical reasoning to predict the behaviour of a simple program	**Understand how programs can run using various forms of input and output (e.g. Bee bots/ micro bits).**	Use various forms of input and output.	**Understand how to break programs down into smaller parts (decomposition) and why that is useful.**	Use decomposition (breaking things down) to solve problems linked to programs.	**Understand how sequencing can be used within programs.**	Use sequencing effectively within programs.	**Understand how variables can impact programs.**	Use variables purposefully within programs to achieve specific goals.
Know how to put batteries in lights	To be able to put batteries in battery powered lights	**Know how to complete a simple computer programme/app**	To complete simple computer games, apps on the IWB, ipad, chromebook	**Understand that programs need precise instructions.**	Write a simple program (which follows precise instructions)	**Understand what debugging is and how it affects how a program runs.**	Identify and debug a simple program.	**Understand how programs are used to control everyday devices. (e.g. toys, drones, traffic lights etc.)**	Create a program which can control/replicate everyday/real world devices. (e.g. toy/traffic lights).	**Understand how to detect and correct errors in x and programs (for various purposes).**	Use logical reasoning to detect and correct errors in algorithms and programs (for various purposes).	**Understand how repetition (loops) can be used within programs.**	Use repetition (loops) effectively within programs.	**Understand how selection can impact a program.**	Use selection purposefully within programs.

Vocabulary

FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Batteries, forwards, backwards, lights	Forwards, backwards, left, right, buttons, programme, app, chromebook	Algorithms, programmes, move, precise instructions.	(As before +) Logical, reasoning, predict, debug,	(As before +) Create, specific, goals, sequence, input and output.	(As before +) decompose, control, design, write, detect, correct	(As before +) Combine, repetition, sequence	(As before +) Combine, selection, variables, purpose, impact

Information Technology

FS1		FS2		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Know some types of technology	Identify technology such as tv, tablet	**Know the uses of technology**	Identify the uses of technology such as tablet, tv	**STICKY Knowledge**	**Corresponding skill**	**STICKY Knowledge**	**Corresponding skill**	**STICKY Knowledge**	**Corresponding skill**	**STICKY Knowledge**	**Corresponding skill**	**STICKY Knowledge**	**Corresponding skill**	**STICKY Knowledge**	**Corresponding skill**
Know where information comes from	Begin to identify non-fiction texts such as books, leaflets	**Know that information comes from a variety of sources**	Identify sources of information: books, leaflets, letters, tv (news), internet	**Understand how information technology beyond school can help us.**	Recognise common uses of information technology beyond school (in the real world).	**Understand how information technology is used within school to help us.**	Recognise common uses of information technology within school.	**Understand how software can be used to collect and present data.**	Select, use and combine a variety of softwares to accomplish given goals (collecting and presenting data/information)	**Understand how the internet and the world wide web can provide opportunities for collaboration and communication.**	Collaborate and communicate effectively for a specific purpose.	**Understand how software can be used to analyse and evaluate data.**	Select, use and combine a variety of softwares to accomplish given goals (analyse and evaluate data/information)	**Understand the difference between the internet and the world wide web and what they do.**	Identify the parts within the schools computer network (eg. servers, router, ports)

				Understand how and why digital content can be changed.	Use technology purposefully to change pre-made digital content.	Understand how we can use technology to create, organise, store and retrieve digital content.	Use technology purposefully to create, organise, store and retrieve digital content.	Understand how to use search technologies effectively.	Use search technologies effectively.	To appreciate how results are selected and ranked using search technologies.	Use filters to find specific information.	To understand how we can evaluate digital content based on reliability and authenticity.	Evaluate digital content.	To understand what databases are and how they are used to store information.	Select, use and combine a variety of software to create a database for a specific goal.

Vocabulary

TV, tablet, computer, information, books, leaflets		Computer, TV, tablet, internet, leaflets, non-fiction/information, news		Information technology, Computer, laptop, chromebook, tablet, mouse, touchpad, keyboard, website, click, scroll, type, enter, digital. Names of devices in the wider world - fridge, TV, tills, cashpoint etc.		(As before +) Organise, create, store, retrieve. Names of devices within school - printer, interactive whiteboard etc.		(As before +) Collect, present, select, combine, software, data, internet, search, search engine		(As before +) world wide web, collaborate, communicate, results, rank, filters, specific		(As before +) analyse, evaluate, digital content, reliability, authenticity		(As before +) compare, computer network, router, server, databases, storage, The Cloud	

Digital Literacy

FS1		FS2		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Sticky Knowledge	Corresponding Skill	Sticky Knowledge	Corresponding Skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill	STICKY Knowledge	Corresponding skill
Know how to stay safe at home and school	Identify ways of staying safe (holding hands with parents when walking)	Understand how to stay safe online	Tell adults when playing on tablet, computer, tv	Understand why we should keep personal information private.	Keep personal information private.	Understand what usernames and passwords are and why they are important.	Use usernames and passwords safely.	Understand how to use safely, respectfully and responsibly.	Demonstrate an ability to use technology safely, respectfully and responsibility.	Understand what is acceptable and unacceptable behaviour online.	Recognise acceptable and unacceptable behaviours online and act accordingly.	Understand what a digital footprint is and how it can impact your life.	Identify positive and negative digital footprints.	Understand what plagiarism and copyright means and its impact.	Find and use copyright free online content.
Know how to stay safe around strangers	Don't talk to strangers. Don't agree to go with a stranger	Understand that sometimes strangers may try and chat with you online	Tell adults if something pops up online	Understand what is inappropriate online content and know to report it to a trusted adult.	Recognise inappropriate online content.	Understand we can respond to inappropriate online content in different ways.	Respond appropriately to inappropriate online content.	Understand that there are a range of ways to report concerns online about content and contact.	Identify and report concerns appropriately about online content and contact.	Understand what scams, spams and hackers are and the corresponding dangers.	Recognise if a/my device has been scammed, spammed or hacked.	Understand that algorithms are used to track online activity in order to influence us (e.g. cookies = advertising).	Act on personal judgement to determine whether to allow/deny cookie usage.	Understand that we are all digital citizens and how we can impact and influence the wider world.	Be a responsible digital citizen (including social media usage).

Vocabulary							
Stranger, safe, adult	Safe, online, pop up, chat, tablet, computer, tv	Private, personal, information, inappropriate, report, trusted	(As Before +) username, password, respond, safely	(As Before +) respect, responsible, report, contact, stranger	(As Before +) Acceptable / unacceptable, scam, hackers, danger,	(As Before +) digital footprint, traceable, impact, track, online activity, cookies, advertisement, virus	(As Before +) plagiarism, copyright, free, digital citizen, influence, social media