ALEXANDER HOSEA PRIMARY SCHOOL

'Roots to grow, wings to fly'

Key skills

Technology being used effectively in the classroom
Awareness of e-safety
How technology is being used
Basic programming skills

Computing Non-negotiables

Computing skills should be taught when linked to projects where possible to ensure real world application

	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online Safety	Use technology respectfully and safely, Chn should be taught how to use equipment carefully and that it could result in being damaged if rules are not adhered to.	Know that you need to follow rules to stay safe online. Know that they need passwords to access some websites and that they need to keep their passwords safe. Know how to respond safely if websites ask for personal information. Identify some ways that people can communicate online. Know that you can play games online on your	Know how to avoid inappropriate websites by using safer searching Know what to look for in a website that will help keep them safe Know that the information they put online leaves a 'digital footprint' Identify how to communicate online appropriately and when online communication is inappropriate	Identify some dangers of using mobile technology and how to keep safe know the differences between communicating in person and online and how to write clear and respectful messages Know the benefits of using passwords and strategies for creating strong and secure passwords Know that	Know how to protect themselves from identity theft by considering the information they share online know about the impact that hurtful online messages can have and how to be 'upstanders' in the face of cyberbullying Learn how to compare and refine keyword searches and explain their results.	Know how to protect devices from harm Know what spam is, the forms it takes and strategies for dealing with it Know some ways that they can help other people to stay safe online and how to report problems Know how websites might be trying to influence your views and why people might want to do this Know how	Explain how posting positive content can impact on your digital footprint Know some ways the media shapes our ideas and how to deal with pressure to conform Know that information is subject to copyright and when to use references. Know that people may post inappropriate views online to

		own and with others Recognise you do not always know who you are talking to when communication online	and what to do if this happens Know what information is safe to share and what is personal and should not be shared Know that not all websites are equally good sources of information and know some ways they can rate websites Identify the features and advantages that help you to keep safe in different types of online communication	some websites are designed to encourage people to buy something and what features are used on sites to do this. Communicate effectively by e mail, considering the purpose and audience and adapt the tone accordingly Know that you can pay for things on-line including in app purchases and how to avoid incurring costs Know that people can connect through the internet and that this can create an online community	Know that the type of content you post on line can influence how people see you and the implications for generating positive content Know how to be responsible and respectful digital citizens in online and offline communities Know about the dangers of online gaming and how to keep safe Know that websites use the information you post online to target advertising and to manage this	different social networking tools organise and use your information the possible dangers and how to keep safe – link to media unit Know what plagiarism is and how and when they can use the work of others. Know about the consequences online behaviour can have	influence people and that these may be morally or legally wrong Know about the negative impact online behaviour can have and have some strategies for handing it. Know about the importance of balancing their online social life with their offline life. Learn that websites must protect private information and to identify secure sites by looking for privacy policies

Data Handling		Take observational photographs to find out about something Use video and sound recording devices to record data to answer questions. Sort and group pictures and objects by given and own criteria in a number of different ways Match pictures and grouped objects to name labels Ask questions to show what they want to find out Record information using tallying and tables Contribute to creating a pictogram	Think about what information they will need to collect to answer questions Ask questions that they want to find the answers to Collect data and use it to create charts and graphs Answer questions from charts and graphs Create decision trees using objects or photographs Explore a branching database Save their data and retrieve it Use digital microscopes to capture images	Find information from a database to answer straight forward questions Add to a database Answer questions using information in a branching database Ask their own questions and recognise those which have yes /no answers Create their own branching database to answer questions Record and present data in drawings, pictograms, bar charts and tables Answer one-step and two-	Ask questions about a population and identify data to be collected to answer them Plan and create a database Distinguish between different types of data such as numerical, text, list Search and sort data in a database to answer questions Know how to identify inaccurate data Present data appropriately for a purpose and audience Use a data logger and analyse the findings	Identify data required to answer specific questions Collect and record information using databases and spreadsheets Complete complex searches (e.g. using and/or; ≤ / ≥) of data in databases and online data sources Solve problems by manipulating and interrogating data and present their findings Question the integrity of data and identify where data may be compromised. Answer questions by	Complete data collection and analysis Select, collect, check accuracy and analyse the data through selecting appropriate data manipulation tools, and present results. Plan investigations which make use of a data logger to collect data; analyse findings and present outcomes.

		Create their own pictogram Answer questions about a pictogram by counting.	Find information from different sources such as web sites	step questions from collected data Use a data logger to monitor changes and describe the findings		identifying data that can be collected using a data logger and interpreting the findings	
Media Skills		Use different brushes and tools (including fill and shapes) in a paint program to create pictures Take a range of digital images and choose the best focused to share with an audience Record sounds and their voice on digital devices for a specific purpose e.g. to go with a story. Write sentences using a word processing program, using	Use a range of tools in a paint program to mix colour and create pictures and repeating patterns Plan and take digital images considering framing of the image. Create sounds, narration and music, re-recording to improve them where necessary. Write sentences with a word processing program using	Create pictures using a range of tools and effects such as blur, diffuse, darken, reflect and repeats Take digital images using zoom and use effects to edit them. Record sounds and voices and compose music and use tools to add effects to recordings and compositions. Use all fingers to create text based documents	Create pictures by choosing from a range of tools and effects and by copying and pasting sections of a picture. Take digital images and crop them to improve the framing. Edit sound and music files using copy and paste and adding effects. Create text based documents using appropriate	Create pictures using a wide range of effects and tools in a paint program to create images designed for a specific purpose and audience. Take digital images and edit them for a specific purpose and audience. Use a variety of tools and effects to edit sounds and music for a specific purpose and audience. Create text based multimedia documents	Create and edit pictures in a paint program to alter impact on the audience or to achieve a specified purpose. Take and edit digital images in different ways for different purposes and audiences. Use a variety of tools and effects to change sounds and music in order to have a different impact on an audience.

		index fingers on a keyboard, spaces between words, return / enter to start a new line and backspace to delete as they go. Add content to a page by selecting from an image and word bank and save their work. Be supported to film something and watch it back. Contribute ideas to an online discussion.	shift and caps lock for capitals and changing the font style, size and colour. Retrieve their documents and edit and add to them using arrow keys to move around text and backspace and delete to correct text. Be supported to work in a group to create an animation of a familiar story. Know that there are different methods of online communication and publish something online that parents can comment on.	incorporating images selecting appropriate fonts, size and colour for a purpose and emphasis. Use bold, underline and italics for emphasis. Edit text by highlighting, to change fonts, size, colour and save their changes. Create a film or animation watch and re-record to improve.	layout for a purpose including use of bullet points, numbering, indenting and columns and selecting appropriate fonts. Use a spell checker. Script and plan a film or animation considering shot types and then film it.	selecting an appropriate layout, fonts and tools for a purpose and audience. Use right click to correct spellings, look up words and find synonyms. Plan film or animation for a specific purpose using green screen where appropriate.	Create and amend text based documents selecting an appropriate layout, fonts and tools for contrasting purposes and audience. Incorporate hyperlinks and transitions in documents and presentations. Plan film or animation for a specific purpose using green screen where appropriate and aiming to have a specific impact on a specified audience.
Programming Skills	Begin to understand the word algorithm	Follow and give instructions using forward,	Plan and enter a sequence of instructions on	Use logo type commands to control a floor	Test and improve given programs	Plan, debug and test algorithms and programs.	Plan an algorithm using flow chart

	as a set of instructions with an intended outcome, i.e. a recipe Program a bee bot Begin to use logic to predict what will happen next in a simple program i.e. predict the direction a bee bot will turn after programming	backward and whole, half, quarter and three quarter turns. Control remote controlled and programmable toys using direction and turn. Predict the effect of a given instruction on a programmable toy. Plan and test a sequence of instructions Debug a sequence of instructions. Know that controlling a programmable toy is more precise than a remote controlled toy. Use an on screen resource to replicate	a floor robot specifying distance and turn to achieve a given outcome. Debug a sequence of instructions. Understand the term sequence. Plan and test a sequence using distance and turn instructions to achieve a given algorithm. Find an alternative algorithm to one already given. Debug a program explaining why it needs to be changed. Edit a given algorithm to achieve a different	robot. Understand how instructions given in a logo program relate to instructions given to a programmable robot / toy Solve problems with a floor robot and replicate their solutions on screen Use logo commands to write an algorithm and program e.g. to draw regular shapes. Explain what a given program does in a logo program and using a visual programming language. Debug a program written in logo	Improve efficiency in programs by comparing different solutions and by using repeat. Write and edit programs using logo commands. Write procedures using logo e.g. to draw polygons, letters and shapes. Use procedures as part of a program. Define variables e.g. to draw shapes on screen with logo and to create a score in a game. Plan and write a program using a flow chart structure.	Use looping and repeat until a condition is met in programs. Group commands to create procedures or sub-routines. Plan, write, debug and test programs using selection structures. Write programs in which an input controls an output and edit to give a different output. Create a program to simulate and control a real life system. Control on screen mimics and physical devices. Use 4 quadrants to identify	notation and then use it to write a program. Write a program from a given algorithm to achieve a specified outcome. Use the program to test and improve the original algorithm. Control on screen mimics and physical devices using more than one input and predict the outputs Use selection structures in a program Create variables in a program. Use sensors to

		movements of a programmable toy. Plan and test a sequence of instructions on screen. Use direction and turn cards to plan and record an algorithm to achieve a purpose using a remote controlled toy. Predict what a given algorithm will do related to a real life context Write their own algorithm relating to a real life context. Debug a given algorithm.	outcome. Replicate an algorithm using programming software and debug Write an algorithm to produce a shape. Use repeat in a real life context. Predict what a given algorithm will do and test their predictions by creating a program using it.	commands and using a visual programming language. Use repeat in logo to write a program Test and debug given programs Write an algorithm using logo and using a visual programming language to achieve an outcome Explain how an algorithm solves a problem Write a program in which an object is used to trigger an action.	Use sensors to 'trigger' an action e.g. touching wall Write an algorithm and then create a program that will use a simple selection command for a game	position in a visual programming language. Use understanding of internal angles to program more complex shapes on screen. Write a program which uses more than one variable. Use a varying sensor as an input to trigger action in a program e.g. temperature or light.	measure an input in order to trigger a sequence and procedure. Edit programs using procedures / subroutines to improve efficiency.
Impact of Technology		Recognise where technology is used at home and at school	Be able to describe what a device needs in order to work	Know what a simulation is and why they are used	Describe the features of a search engine that help you to search	Know about computer networks and how they work	Know how to find out who information on a web page belongs to

		Know that there is a range of technology used at home and at school Describe some of the benefits with using technology at home and school Identify parts of a computer and what they are for Describe some of the issues with using technology Know how the use of technology at home and school have changed over time Know about the types of technology that can be used to communicate	Know about the different types of device that can access the internet and the different ways they are used Know how technology supports people in their daily lives Know how technology is used in some jobs Know what sort of information can be found on web sites and how this is a benefit to people Know how people can be contacted to get help online and that this has changed overtime	Know that physical systems can be simulated Know that simulations can be different to a real life situation Know that simulations allow people to explore a variety of options Know that changing options in a simulation may have different outcomes Describe some ways in which simulations have an impact on our lives Know that simulations produce information that needs to be analysed	Know how to select an appropriate search tool Describe how to use a search engine effectively (to get best results) Know why search results are ranked differently Know how to check the reliability of a web site Know about file structure, naming and organisation and the implications for finding resources Know about the different places data can be stored and the benefits and issues of this.	Know how they can provide multiple services Know that data is used to target services and information Know about the benefits of different types of online communication and collaboration tools Know how to select the most appropriate communication tool for a purpose Know how online communication and collaboration impacts on people in their life and work	Know how web sites are designed to have an impact on the audience Be able to evaluate web sites and the impact they are designed to have Know some ways to evaluate the reliability of web content Know about intellectual property and copyright Know how web pages are created and published