KILLIGREW SCHOOL COMPUTING CURRICULUM OVERVIEW

	Autumn 1 (8 weeks)	Autumn 2 (7 weeks)	Spring 1 (6 weeks)	Spring 2 (6 weeks)	Summer 1 (5 weeks)	Summer 2 (7 weeks)
Nursery	**E-safety –** introducing and continuously revisiting content, conduct and contact					
	Operating simple equipment	Listening to stories via technology	Shows an interest in technological toys with knobs or pulleys, or real objects Knows that information can be retrieved from computers	Making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images	Using positional language and when operating simple toys	Identifying technology in the home
Reception	**E-safety –** introducing and continuously revisiting content, conduct and contact					
	We have confidence **Recording and playing back sounds** We can take turns **Manipulating objects on screen** We are successful **Taking digital photos and combining them with text and sounds** We have feelings **Taking and display digital photographs**	We can drive **Investigating everyday technology** We are DJs **Playing and using sound** We can exercise **Using timers** We are healthy **Exploring images and videos**	We can listen **Using technology to communicate** We can understand instructions **Recording using basic functions** We are talkers **Using video cameras**	We are digital readers **Closing and opening applications and digital texts** We can email **Using basic functions** We can blog **Communicating using digital text** We can count **Programmable toys**	We are designers **Using remote control toys** We are shape makers **Using a light box or visualiser** We are community members **Displaying digital photographs and recording sound** We can observe **Using a digital microscope**	We are game players **Opening and closing files** We are creative **Choosing and using tools in an art application** We can record **A soundtrack** We are film producers **Using Moviemaker**

Year 1	We are treasure hunters **Using programmable toys -** develop and record sequences of instructions as an algorithm. Program, predict and debug programs. **E-safety** – use simple programmble toys safely and sensibly as well as showing respect for the work of their peers. We are TV chefs **Filming the steps of a recipe -** Use the different features of a video camera to capture moving images. Develop collaboration skills and evalulate their work. **E-safety** – recognise the need for consent and assent when filming. Understand the importance of not sharing videos more widely than is appropriate.	We are painters **Illustrating an eBook -** use the web safely to find ideas. Select and use painting tools to create and change images for a particular purpose. **E-safety** – what to do if they encounter material and it concerns them. We are collectors **Finding images using the web -** find, use, organise and group images on the basis of a binary (yes/no) question or according to some criteria. Ask and answer binary (yes/no) questions about their images. **E-safety** – use the web/technology safely to search for images.	We are storytellers **Producing a talking book -** use sound recording equipment to record, save, share and store sounds. **E-safety** – use audio recorders or microphones and audio recording software safely and sensibly. We are celebrating **Creating a card digitally -** Develop basic keyboard and mouse skills. Use the web to find images.Develop skills in storing and retrieving files, and combining text and images. **E-safety** – respect the copyright conditions associated with any third party images they use.
Year 2	We are astronauts **Programming on screen (scratch) -** convert simple algorithms to programs. Predict what a simple program will do. Spot and debug errors. **E-safety** – what to do if they encounter innappropriate material when they search the web. We are game testers **Exploring how computer games work -** use logical reasoning to make predictions about a computer game and then test these predictions.	We are photographers **Taking better photos -** use a digital camera or a camera app to take digital photographs. Review, reject, rate, edit and enhance the images they take. **E-safety** – what happens to photos when they are posted online. We are researchers **Researching a topic -** work as part of a group to research, take notes and develop a short multimedia presentation about a chosen topic.	We are detectives **Collecting clues -** develop skills in opening, composing and sending emails. Gain skills in opening and listening to audio files on the computer. **E-safety** – risks associated with email and having a secure password. We are zoologists **Collecting data about bugs -** collect data using tick charts or tally charts. Use simple charting software to produce pictograms and other basic

	E-safety – choosing games wisely, observing age restrictions and playing games in moderation. Where to go for help and support when they have concerns about content or contact.	**E-safety** – how to stay safe while researching online.	charts. Take, edit and enhance photographs. Record information on a digital map. **E-safety** – respect rules for using digital equipment when out of the classroom.
Year 3	We are programmers **Programming an animation -** create an alogrithm for an animated scene. Write a program in scratch to create the animation. Correct mistakes (debug) the program. **E-safety** – developing safe search habits. We are bug fixers **Finding and correcting bugs in programs -** develop a number of strategies for finding errors in programs. Build up resilience and strategies for problem solving. Recognise a number of common bug types in software. **E-safety** – considering the implications of bugs in software.	We are presenters **Videoing performance -** gain skills in shooting live video. Edit video, including adding narration and editing clips. Understand the qualities of effective video. **E-safety –** learning to act respectfully and responsibly when filming. We are vloggers **Making and sharing a short screencast presentation -** use a search engine to learn about a new topic. Plan, design and deliver an interesting and engaging presentation. Create a video slidecast of a narrated presentation. **E-safety** – learning about digital footprints.	We are communicators **Communicating safely on the internet -** develop a basic understanding of how email works. Gain skills in using email. Experience video conferencing. **E-safety** – how to use email safely and responsibly. We are opinion pollsters **Collecting and analysing data -** understand some elements of survey design. Use the web to facilitate data collection. Use charts to analyse data and interpret results. **E-safety** – legal and ethical requirements for designing online surveys and processing data.

Year 4	We are software developers **Developing a simple educational game –** develop and debug a game using selection, repetition and variables. **E-safety** – develop safe search habits. We are toy designers **Prototyping an interactive toy –** design, make and debug an on-screen prototype of a computer-controlled toy with different forms of input and output. **E-safety –** think carefully about sourcing images and other media for prototypes and presentations.	We are musicians **Producing digital music** – create and develop a musical composition using one or more programs. **E-safety** – what is copyright? We are HTML editors **Editing and writing HTML** – use HTML tags and hyperlinks. Code up a simple web page with useful content. **E-safety** – how web pages can be modified.	We are co-authors **Producing a wiki** – research and write using the wiki tool. Understand the conventions for collaborative online work, particularly in wikis. **E-safety** – what conduct is appropriate when working on a shared wiki? We are meteorologists **Presenting the weather** – use computer-based data logging to automate the recording of some weather data. Practise usng presentation software and video. **E-safety** – the importance of obtaining and using accurate data.

Year 5	**We are game developers** **Developing an interactive game –** design, create and debug a computer program for a computer game which uses sequence, selection, repetition and variables. **E-safety** – develop safe search habits. **We are cryptographers** **Cracking codes –** be familiar with semaphore and Morse code. Encrypt and decrypt messages in simple ciphers. **E-safety** – the important of password security and website security.	**We are artists** **Fusing geometry and art –** become familiar with the tools and techniques of a vector graphics package. Develop an understanding of turtle graphics. **E-safety** – learning the importance of protecting personal information when sharing work with an audience. **We are web developers** **Creating a website about cyber safety –** use research skills to find and select appropriate information. Understand some elements of how search engines select and rank results. **E-safety** – learn about cyber safety and work collaboratively to present work online.	**We are bloggers** **Sharing experiences and opinions –** create a sequence of blog posts on a theme incorporating additional media. **E-safety** – commenting appropriately (digital footprint). **Belief in our community** **We are architects –** develop familiarity with a simple CAD (computer aided design) tool. **E-safety** – safe searching and copyright

Year 6	We are adventure gamers **Making a text-based adventure game –** plan, create and debug a text-based adventure with multiple 'rooms' and user interactions using a text-based programming language. **E-safety** – using python safely. We are computational thinkers **Mastering algorithms for searching, sorting and mathematics –** reason with, evaluate and understand algorithms. **E-safety** – modifying websites safely.	We are advertisers **Creating a short television advert –** work collaboratively to shoot suitable original footage and source additional content for a TV advert. **E-safety** – acting responsibly and respectfully when filming. We are network technicians **Exploring computer networks including the internet –** understand the basic hardware needed for computer networks to work and the key features of internet communication protocols. **E-safety** – digital footprint.	We are travel writers **Using media and mapping to document a trip –** research, capture and showcase a trip using digital mapping. **E-safety-** geotagging and privacy. We are publishers **Creating a yearbook or a magazine –** write, review and source digital media to produce a high quality document. **E-safety-** photographs and privacy.