Fairfield Nursery School

Technology Curriculum

Technology is a large part of our lives, as adults and children we use technology every day and are expected to know how to do this safely. At Fairfield we think it was important to teach children they different skills they need around a range of different technology resources. It is important we safeguard children when using technology and that we teach children how to safeguard themselves.

Technology threads run within every area of the curriculum and we refer to searching the internet and researching as question arise during play. We see the importance in teaching children the power of the internet and how it can be used as a tool to find out information. Alongside this staff ensure that children know how to negotiate safely when on the internet and that do sessions with parents around e safety.

A recent report found that some 45% of 3- to 4-year-olds use YouTube, and 52% of 3- to 4-year-olds go online for an average of almost nine hours per week*. Although ICT lessons are taught to older children, it is important that young children know the importance of staying safe online and how to use technology in a safe way. *(Pacey online safety 2019)*

From: https://www.childrenscommissioner.gov.uk/2017/08/06/digital-5-a-day/

- Connect - to family and friends, help children be aware of who they are connecting with and talk to you if they connect to someone they do not know.

- Be active – have time to switch off and get moving, research where to go and what to do

- Get creative – use the internet to find out new things, be creative build new skills

- Give to others – use the internet to give positive feedback to others and report negative behaviour
- Be mindful – about the time spent online and support children to manage their time online. Set limits on time spent online.

The Principles /Intent for Technology

- **To guide children to make sense of their physical world and community through opportunities to explore, observe and find out about technology.**
- **To recognise and be able to use a range of technology and select technology for a particular purpose**

Key Learning linked to Technology

- Generic Skills and Knowledge linked to IT
- Text and Digital Imagery
- Audio
- Data Handling
- Using Sensors
- Online Safety
- Electronic Programming
- Simulations and Modeling

TECHNOLOGY

INTENT

	I am intrigued by different forms of technology and investigating how these work	I am able to interact with multimedia software's and know how to make things move on screens, I am aware I can use devices to retrieve and store information.	I have knowledge of different forms of electronic communication, I am able to negotiate around an I pad to carry out a task and beginning to understand the differences between real life and virtual.	I am able to use different programs and applications and know how these work, I have a wide scope of skills and able to apply these. I know how to retrieve information from a device and how to open up the necessary programs to do this.
Generic Skills and knowledge linked to IT	Shows interest in technology and picks up phones, cameras, keyboards, remotes etc	Beginning to understand that a mouse and keyboard are tools for communicating with a computer. Use a tablet for mark making Interact with multimedia software to make something move on screen	Understand the use of different forms of electronic communication Know that IT sources can be used to find things out Use a finger or control to move a pointer around a screen	Competently use the keys on a keyboard Print out text and images using appropriate software Use equipment to make a simple video Use a shortcut, such as an icon on desktop to navigate to a specific website

Text and Digital Imagery	Know that marks can be made on screen as well as paper Become familiar with computer / keyboard.	Begin to use simple drawing/text apps and tools to begin to communicate ideas Show an Interest in using multimedia equipment (iPad camera, videos etc.) Begin to recognise some letters on a keyboard	Understand that letters on a keyboard are used to create words Know how to use control buttons i.e stop/start on videos. Begin to explore changing font size / colour / style with adult support Know that objects on screen can be animated	Be able to change text size/font/colour for a desired effect Be able to type competently Use tools on a paint program or whiteboard software competently to communicate ideas effectively. Begin to use simple animating programs
Audio	Shows an interest in music and sounds played through audio devices	Knows that computers and audio devices can be used to record and play back sounds. Begin to use buttons to play back sounds on a computer and a sound player Know that devices can be used to communicate with	Know that sounds are stored and can be chosen to use within a piece of software Know that devices can be used for recording and saving sounds.	Be able to experiment with pitch and sound using simple programs and tools independently To be able to effectively communicate with others using a device (i.e phones / walkie-talkies)

		others (i.e phone calls / video calls / walkie-talkies)		
Data Handling	Be able to collect information (e.g by taking photographs or collecting objects.	Know that information can be sorted both practically and using a computer program. Use IT to sort and sequence objects on a screen or interactive whiteboard	Understand how a computer/tablet allows - objects to be moved around easily -changes to be made and saved easily -information to be revisited at another time	To be able to produce simple charts (pictograms, bar charts) To be able to sort, classify or group objects progressing from practical activities to the use of IT (practically sorting fruit into colours, or types, then on screen)
Using Sensors	Know that there are everyday devices that sense data (bar codes, metal detectors, automatic doors, light sensors)	Know that there are digital devices that can sense data (thermometers, sound detectors) These can be used to show external changes	Explore different devices that use sensors (metal detectors, thermometers)	Be able to select the correct type of monitor needed for its intended purpose (i.e thermometer for temperature) during an activity or investigation.
Online Safety	Know the dangers of being online	Know to report or tell an adult about anything inappropriate seen online	To begin to know how to react and respond to inappropriate webpages.	Know how to redirect web-page if something they do not like / inappropriate appears

Electronic Programming	Know that the computer keyboard can be used to control objects on screen Know that some devices need commands to operate and control them (e.g traffic lights, car park barriers.)	Understand what commands are needed to control different devices (e.g make a noise to activate a toy; press a button to make it work.)	Begin to use basic commands to control electronic toys (e.g directional commands for remote control cars.)	Know the commands needed to control a range of electronic toys (e.g basic directional language to control a Bee-Bot.)
Simulations and Modelling	Know that computers can represent real or imaginary situations Explore simple simulations and find out "what happens if…"	Know that computers can make imaginary things happen on screen – which may not happen in everyday life.	Begin to compare real life and virtual situations by using simulations.	Know that different choices made using a program on the computer can produce different outcomes.

Implementation

	I am intrigued by different forms of technology and investigating how these work	I am able to interact with multimedia software's and know how to make things move on screens, I am aware I can use devices to retrieve and store information.	I have knowledge of different forms of electronic communication, I am able to negotiate around an I pad to carry out a task and beginning to understand the differences between real life and virtual.	I am able to use different programs and applications and know how these work, I have a wide scope of skills and able to apply these. I know how to retrieve information from a device and how to open up the necessary programs to do this.
Generic Skills and knowledge linked to IT	Explore different forms of technology (camera's, computers, tablets.) to become familiar with them.	Children begin to use the computer keyboard (desktop or laptop) to develop familiarity with letters, numbers, backspace, space bar and arrows with support from adults. Adult to provide devices and support the use different forms of software to create, (e.g pictures, drawings, text or images.)	Adult to support children exploring different ICT sources to find things out (e.g Purple Mash, Internet searches.) Adults to provide different forms of electronic communication within provision (walkie-talkies, mobile phones, sound recording devices.) Adults to support children to explore different forms that information can be accessed on a computer /	Children to be able to print off text and images they have created on a computer with minimal support from an adult. This could be done to use within other areas of continuous provision (e.g finding a photo to print to use within the painting area.) Be able to use a shortcut on a desktop to navigate to a specific website / desired page. Be able to competently use video devices (such as on

| | | Adults to sit with children at the Mac/computer and allow them to explore the buttons on the keyboard, and moving the mouse seeing what happens when they do this.

Adult to provide and support children to engage in a range of simple activities on screen to develop mouse control including click-and-drag, drag-and-drop etc. | tablet (video, pictures, sound and text) | iPad) to make simple recordings during activities and during play (performance, a song etc.) |
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| Text and Digital Imagery | Adults to provide iPads with apps that allow children to draw and type on | Staff to provide a variety of multimedia equipment including digital cameras to allow | Adults to support children using paint programs or interactive whiteboard software to make marks | Child to be able to change text size, style and colour competently using |

during continuous provision. Explore keyboard / buttons on a keyboard by pressing them to become familiar with it. Staff to ensure there are accessible devices for children to use within provision (camera's, iPad)	children to capture still and moving images within their environments, indoor and outdoor with support. Staff to Introduce cameras and ipads into activities so that children can investigate them and learn how they are used and what to use them for.	(including changing brush styles and size, fill, stamps) to communicate their ideas. Child to begin to play back captured still or moving images to become familiar with the control buttons. Children could video themselves during continuous provision, or take photos of their play and then revisit it at a later time. Children begin to use computers / devices to find pictures / photographs to print and use within continuous provision (i.e pictures to look at in the painting area, ideas of structures to build in the construction areas) Build on children's developing knowledge of	appropriate simple software independently. Competently use software on a computer/tablet to select objects and animate them. Children to type a piece of writing competently without adult support. Staff could do this within project work, allowing children to type about their interests and print copies. Encourage expression by incorporating digital imagery and equipment into projects and allowing children the freedom to use them in ways them to support their ideas and learning.

			digital imagery by offering a range of cameras and ipads to take images	
Audio	Staff to provide a variety of audio devices that children can use to listen to music and sounds such as the Mac/computer and iPads.	Staff to support children in finding apps to locate music and audio sounds and play them back.. Staff to support children exploring different ways of making music (music mats, piano keyboards.) Staff to provide devices that can be used for communication (walkie-talkies, phones) and support the use of them.	Staff to support children in activities that include choosing pre-recorded sounds and order them correctly (e.g to create a story in the correct order or recorded environmental sounds matched up to digital images within a talking book) Children to use a variety of devices such as microphones or other recording devices (talking tins, talking pens etc) to record sounds or speech.	Children to be able to select correct ICT software and equipment used for controlling and changing sounds. Children to use audio devices to communicate effectively with one another (walkie-talkies /phones etc) This could be done from Forest School and outside as an adult led activity, exploring how devices can be used to communicate via devices.
Data Handling	Staff to support children in activities that involve collecting information, (taking	Staff to discuss that information can be stored on computers and practically.	Staff to discuss the different ways devices can be used to store and hold information.	Children to create simple charts using information they have collected e.g (what is the favourite snack in nursery?)

	photographs or object.) Encourage children to use the camera to record the clay as they explore it.	Staff to support children finding information stored on computers. Staff to provide and support children in sorting and sequencing activities on whiteboards or computer screens. Incorporate technology into learning opportunities, for example when categorizing objects, record this using photographs.	Staff discuss and model creating charts that store collected information (tally charts.) Staff to encourage children to create their own tally charts within provision (e.g counting how many boys or girls are in their group) Staff to support children using devices so they understand how to use a tablet / device for a variety of reasons (moving objects easily, making changes to work, revisiting work) Use computer software programmes to make simple pictograms as a	Staff to provide sorting and classifying activities for children, beginning with practical (sorting fruits into groups) then moving onto using ICT to sort groups (sorting items on the screen.) Encourage children to have a go at creating their own graphs and discuss which types of graphs they like.

			group activity, for example, which is their favourite snack	
Using Sensors	Staff to discuss and provide different devices that use sensors (bar codes, metal detectors.) Children to explore these devices (finding metal objects in their environment with a metal detector)	Staff to model using other digital devices that sense data (thermometers, sound detectors) during activities with children.	Staff to provide children with a range of devices they can explore during continuous provision (metal detectors, thermometers) Children to begin to use devices effectively (finding metal objects with a metal detector)	Staff to provide activities / investigations that require children to select and use correct devices for their use (measuring different temperatures, sorting objects into metal and non-metal)
Online Safety	Staff to discuss the dangers of being online with children. Staff to support children being online and making them aware of the dangers.	Staff to explain what to do if they come across something inappropriate / unwanted on the internet. Staff to discuss who to report any internet problems to.	Staff allow children to explore internet with more independence, but ensuring they know the dangers and how to react if they come across unwanted pages. Staff to model what to do (redirect pages) if unwanted content appears.	Children to be able to access internet independently and know what to do about unwanted pages and who to report it to. Children to be able to redirect web-pages if they are inappropriate.

Electronic Programming	Staff to discuss every day objects that require commands (traffic lights, car parking barriers) Staff to model using a computer keyboard to control objects.	Children to begin to control simple games on-screen using arrow keys Staff to support children using commands to control toys, (pressing buttons to make noises)	Staff to support children to begin to use simple commands effectively during their play (directing a remote control car)	Children to be able to effectively direct an electronic toy from A to B using directional commands (Bee-Bot).
Simulations and Modelling	Staff to provide access to computers which have a range of imaginary situations and support the use of these, i.e (games with different outcomes)	Staff to discuss and model a variety of situations that happen online, i.e computer games, to help children understand the difference between imaginary and real life.	Children to explore games that involve virtual situations (dressing up characters.) and making decisions to get the required outcomes.	Children to experience real-life based situations (e.g watering a plant, not watering one on a simulation) and comparing the differences.