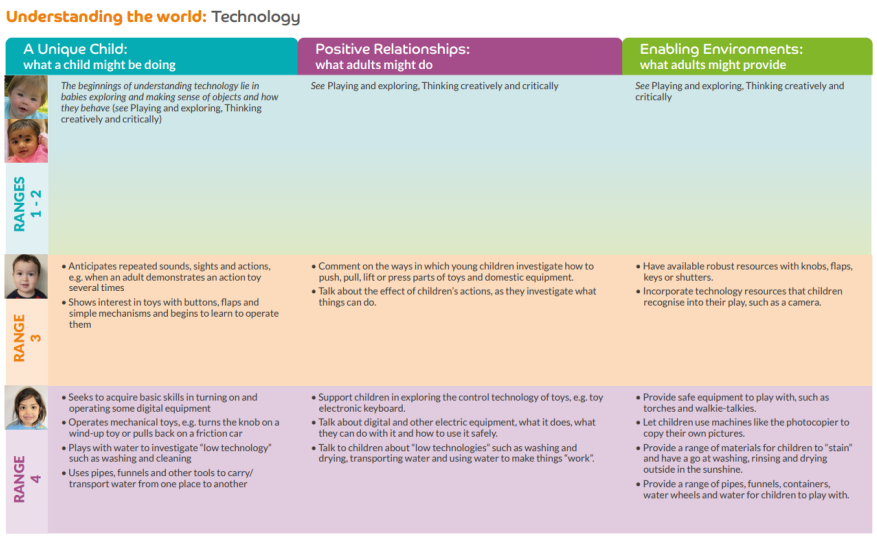
TEACH ICT
North Tyneside

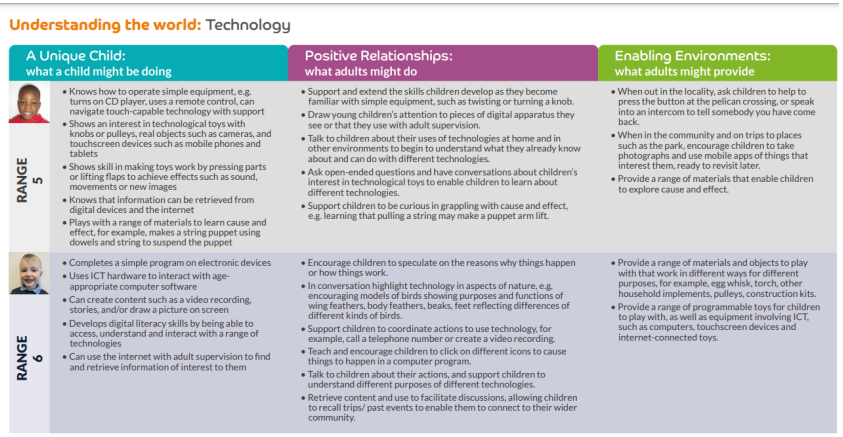
AGFS Long Term Computing Plan

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computing in Early Years will be taught through a combination of well-planned learning environments alongside the specific teaching of computational thinking skills. These skills are embedded in the Early Years curriculum and delivered through a range of playful adult led and child initiated activities. Much of the 'computing' in Early Years is 'unplugged' however we also provide opportunities for children to use and explore a range of technologies including: ipads, computers, IWBs, role play resources (telephones, tills, microwaves, walkie talkies etc) **Statutory ELG: None** Birth to Five Matters: Children require access to a range of technologies, both digital and non-digital in their early lives. Exploring with different technologies through play provides opportunities to develop skills that children will go on to develop in their lifetimes. Investigations, scientific inquiry and exploration are essential components of learning about and with technology both digitally and in the natural world. Through technology children have additional opportunities to learn across all areas in both formal and informal ways. Technologies should be seen as tools to learn both from and with, in order to integrate technology effectively within early years practice.					



Understanding the world: Technology

A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
The beginnings of understanding technology lie in babies exploring and making sense of objects and how they behave (see Playing and exploring, Thinking creatively and critically)	See Playing and exploring, Thinking creatively and critically	See Playing and exploring, Thinking creatively and critically
RANGES 1 - 2		
• Anticipates repeated sounds, sights and actions, e.g. when an adult demonstrates an action toy several times • Shows interest in toys with buttons, flaps and simple mechanisms and begins to learn to operate them	• Comment on the ways in which young children investigate how to push, pull, lift or press parts of toys and domestic equipment. • Talk about the effect of children's actions, as they investigate what things can do.	• Have available robust resources with knobs, flaps, keys or shutters. • Incorporate technology resources that children recognise into their play, such as a camera.
RANGE 3		
• Seeks to acquire basic skills in turning on and operating some digital equipment • Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car • Plays with water to investigate "low technology" such as washing and cleaning • Uses pipes, funnels and other tools to carry/ transport water from one place to another	• Support children in exploring the control technology of toys, e.g. toy electronic keyboard. • Talk about digital and other electric equipment, what it does, what they can do with it and how to use it safely. • Talk to children about "low technologies" such as washing and drying, transporting water and using water to make things "work".	• Provide safe equipment to play with, such as torches and walkie-talkies. • Let children use machines like the photocopier to copy their own pictures. • Provide a range of materials for children to "stain" and have a go at washing, rinsing and drying outside in the sunshine. • Provide a range of pipes, funnels, containers, water wheels and water for children to play with.
RANGE 4		



Understanding the world: Technology

A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
RANGE 5		
• Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support • Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets • Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images • Knows that information can be retrieved from digital devices and the internet • Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet	• Support and extend the skills children develop as they become familiar with simple equipment, such as twisting or turning a knob. • Draw young children's attention to pieces of digital apparatus they see or that they use with adult supervision. • Talk to children about their uses of technologies at home and in other environments to begin to understand what they already know about and can do with different technologies. • Ask open-ended questions and have conversations about children's interest in technological toys to enable children to learn about different technologies. • Support children to be curious in grappling with cause and effect, e.g. learning that pulling a string may make a puppet arm lift.	• When out in the locality, ask children to help to press the button at the pelican crossing, or speak into an intercom to tell somebody you have come back. • When in the community and on trips to places such as the park, encourage children to take photographs and use mobile apps of things that interest them, ready to revisit later. • Provide a range of materials that enable children to explore cause and effect.
RANGE 6		
• Completes a simple program on electronic devices • Uses ICT hardware to interact with age-appropriate computer software • Can create content such as a video recording, stories, and/or draw a picture on screen • Develops digital literacy skills by being able to access, understand and interact with a range of technologies • Can use the internet with adult supervision to find and retrieve information of interest to them	• Encourage children to speculate on the reasons why things happen or how things work. • In conversation highlight technology in aspects of nature, e.g. encouraging models of birds showing purposes and functions of wing feathers, body feathers, beaks, feet reflecting differences of different kinds of birds. • Support children to coordinate actions to use technology, for example, call a telephone number or create a video recording. • Teach and encourage children to click on different icons to cause things to happen in a computer program. • Talk to children about their actions, and support children to understand different purposes of different technologies. • Retrieve content and use to facilitate discussions, allowing children to recall trips/ past events to enable them to connect to their wider community.	• Provide a range of materials and objects to play with that work in different ways for different purposes, for example, egg whisk, torch, other household implements, pulleys, construction kits. • Provide a range of programmable toys for children to play with, as well as equipment involving ICT, such as computers, touchscreen devices and internet-connected toys.

LP

Simplified Objectives - across the year (DM)

I can use electrical and digital equipment safely.
I can use water to explore 'low technologies' with others.
I can use support technology.
I can talk about the effects of my actions

Resources / Types of activity

Water for investigation with pipes and funnels.
Water for investigation with washing, drying and transporting. (Babies Topic)
Mechanical toys for switching on and off and pull back friction (push and pull).
Wish List: Torches.

N

Simplified Objectives - across the year (DM)

I can use a range of digital equipment and understand its uses.
Operate mechanical toys.
I can explore water play using a range of resources (low technology - water and washing)
I can use simple equipment
I am interested in technological toys.
I can show skill when making toys work.
I know that information can be received from digital devices.
I can play with a range of materials to learn cause and effect.
I know how to use a range of technology safely

Resources / Types of activity

Indoors - beebots, role play home goods

Forest school - water, transport - pipes, buckets, mud kitchen and potion station, washing hands
Outdoor nursery - planks, pipes, crates, sand area and equipment, mud kitchen, water trough and equipment such as water wheels, scoops…

R	**Pleased to meet you** I understand and interact with a range of technologies I can complete a simple programme on class PC and ipads using drag and drop mouse skills • Use technology in role play - phones, tills etc • Explore using Bee bots • Begin to use class computer to control a mouse to drag and drop • Acceptable Use - learn simple rules to keep us safe using technology in school	**Magic Moments** I can create content using class PC and ipads I can use a drawing programme. I can move a mouse to a target. I can click the correct button to select. • Use an ipad to take a photograph and ask consent • Select and use apps on an ipad • Use one finger to click a mouse button to drag and drop	**Superheroes** I know to use the internet with adult supervision. I know steps to keep myself safe when playing on a device To access, understand and interact with a range of technologies. • Have an awareness of internet safety • Use one finger to click a mouse button to drag and drop • Play games on an interactive whiteboard ***Safer Internet Day***	**Stepping into Spring** To access, understand and interact with a range of technologies. Uses hardware to interact with age appropriate computer software Develops digital literacy skills by being able to access, understand and interact with a range of technologies • Use a mouse with increasing control to use an art programme • Open and close a programme on PC/ipad • Have an awareness of screen time	**The Great Outdoors** To access, understand and interact with a range of technologies. To find and retrieve information • Understand that information can be found from a range of sources - internet • Explain ways in which they and their families keep safe when using devices	**Brilliant Beaches** To access, understand and interact with a range of technologies. To find and retrieve information • Understand that information can be found from a range of sources - internet • Explain ways in which they and their families keep safe when using devices
1	**Small Me, Big World** **An introduction to digital art** *Introduce children to a range of digital art packages and the tools within them. They apply the tools and their skills to a range of artistic styles and genres from painting to photography.*	**Toys** **Exploring digital Sound** *Introduce children to digital sound, and let them experiment with simple beats, tempo and composition with various tools.*	**Living things and their Habitats** **Making multimedia stories** *Get children writing and creating digital stories. Work on improving typing skills with fun games, learn about simple text formatting, then bring their work to life with sound and animation.* ***Safer Internet Day***	**Healthy Planet, Healthy Me** **Action algorithms!** *Apply the concept of algorithms and instructions to a variety of contexts, both digital and analogue (e.g. operating a crane, recipes and dance routines)*	**Heroes and Dragons** **Keeping Safe and Exploring Technology** *Help children stay safe and understand what a healthy use of technology is. Then explore the tech in our homes and businesses and get hands on with control equipment to figure out how it all works.* ***E-Safety Unit***	**Summer at the Seaside** **Programming Direction** *A programming unit that focuses on directional instructions and creating sequences (algorithms) using a variety of programs and equipment.*

2	**Local Heroes** **Writing in different styles** *Introduce children to word processing and desktop publishing using a number of different tools and design tasks.*	**Animals of the World** **An introduction to animation** *Get really creative as you introduce both 2D and stop frame animation. Students will love creating their own animated clips and stories with a variety of tools.* *iPads are available to loan*	**Our Amazing World** **Programming with ScratchJr** *Introduce students to this great block-based programming language to create animations and games perfect for KS1. Write and debug algorithms, learn about repeating, and different triggers to create actions.* *Safer Internet Day*	**Share a Story** **Keep Safe and Create** common sense education *A combination of 3 lessons from Common Sense Education's excellent digital citizenship curriculum and the chance for your students to apply their learning to digital making activities that would help them share the important online safety messages with others.* *E-Safety Unit*	**Great Fire of Newcastle** **Programming with Logo** *Introduce the written programming language of Logo. Students program their on-screen robot to move and create drawings using repeat commands and their own procedures.* *iPads are available to loan*	**Pirates** **Finding and presenting information** *Introduces children to web browsers to explore and search websites safely, collecting and presenting information in graphs, and different ways of sorting and classifying data with databases.*
3	**Stone Age** **Digital Literacy and online safety (Y3)** common sense education *Six lessons taken from Common Sense Education's excellent digital citizenship curriculum, covering a wide range of topics including well-being, privacy and security, online identity, relationships, communication and the media.* *E-Safety Unit*	**Astronauts** **Communication and collaboration** *Introduce students to email and online collaborative tools. Learn how to safely and appropriately make use of these essential digital tools.*	**Ancient Greeks** **Animation with Scratch** *Combine programming with animation as you control the movements and actions of your sprites and backgrounds with algorithms written in Scratch's programming language.* *Safer Internet Day*	**Healthy Eating** **Databases** *Explore different ways to collect, interrogate and present data collaboratively using a range of programs. What is a database? Why and how are they used in real life?*	**Victorians** **Digital imagery: Patterns in nature** *Take a look at the beauty of repeating patterns in nature and different methods of recreating these with digital art tools and photo editing.*	**Rivers** **Getting started with Kodu** *Introduce students to creating games with Kodu. Program your characters and design your 3D worlds to make exciting collecting and racing games.*

4	**World War II** **Digital Literacy and online safety (Y4)** common sense education *Six lessons taken from Common Sense Education's excellent digital citizenship curriculum, covering a wide range of topics including well-being, privacy and security, online identity, relationships, communication and the media.* ***E-Safety Unit***	**Our European Neighbours** **Searching the web** *Take a detailed look at all elements of searching the web with care and consideration, covering: searching tricks, validating websites, improving your searches, searching images and searching online maps.*	**Ancient Egypt** **Programming Scratch Maze Games** *Teach algorithms, repetition, conditions and variables, while introducing students to Scratch's block-based coding language. Build adventure maze games and design your own levels, characters and objects to collect.* ***Safer Internet Day***	**Rainforests** **3D Design - Digital Modelling** *Introduce 3D modelling and design, looking at both architectural design of building and sculpture of models. Learn the basics of Sketchup and then put your design skills to the test with a number of projects.*	**The Romans** **Kodu an Independent Project** *Students will work independently to plan, design, test and evaluate their own Kodu game, using a resource bank of ideas to support them.*	**Habitats** **Computational Thinking - Alien Contact!** *An unplugged unit to develop your students into strong computational thinkers by solving a wide range of exciting unplugged problems. Will they be able to solve the problems, earn the trust of an alien species and cement a new galactic friendship?!*