Year R Computing Long Term Plan 2023- 2024

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Baseline	All about instructions Programming	Bee- Bots Programming	Introduction to data Data handling	Exploring hardware Computing systems & networks	Using a computer Computing systems & networks

Although the 'Technology' strand has now been removed from 'Understanding the World', we believe that computing and technology are still vitally important subjects to deliver to Reception children. Not only will teaching a well-planned Computing curriculum ensure that children enter Year 1 with a strong foundation of knowledge, but Computing lessons in the EYFS also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning.

Year R Medium Term Plan – Computing

Term 2- Programming "All about instructions"

National Curriculum Links: ELGs & Development Matters	Opportunities in CI	Key Vocabulary	Pupil Offer
C&L **Rec**: Understand how to listen carefully and why listening is important. Articulate their ideas and thoughts in well-formed sentences. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Describe events in some detail. **PSED** **Rec**: Build constructive and respectful relationships. Know and talk about the different factors that support their overall health and wellbeing. **ELG:** Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Work and play cooperatively and take turns with others. **PD** **Rec:** Further develop the skills they need to manage the school day successfully.	Using real life technology in child – initiated, including: - telephones - cameras - tills - torches - oven - microwave - washing machine	Call, phone, mobiles, tablets, photograph, capture, take, open, close, on, off, instructions, guide, predict, guess	Pupils get to explore a wide range of technological devices during their child – initiated. These devices will be modelled correctly and safely by the adults in the setting. Linking to our term 2 enquiry (Food and Celebrations) we will be demonstrating how cameras may be used during celebrations and special events.

Following Instructions	Giving Instructions	Giving Instructions	Debugging instructions	Predictions
Play 'Simon Says' Play 'If you…' Animal listening game	In small groups, the children will guide their partner through a basic obstacle course.	Sit in a circle with dressing up items in the middle. Give child an instruction, "Put on the hat." Bean bag throw for other children to give another instruction.	Ask the children to give adult instructions on how to wash their hands. Write down their instructions. Adult to follow specific instructions: i.e. if child says, 'Put soap on hands' do not rub it in. They can then adjust their instructions. Photographs of the final steps will be displayed in class.	Using photographs, and building on pupils learning throughout the term, ask children to predict the outcome.

Term 3- Programming "Bee- Bots"				
National Curriculum Links: ELGs & Development Matters	**Opportunities in CI**	**Key Vocabulary**	**Pupil Offer**	
PSED **ELG:** Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. **Maths** **Rec:** Count objects, actions and sounds. Link the number symbol (numeral) with its cardinal number value. Count beyond ten.	Using real life technology in child – initiated, including: - telephones - cameras - tills - torches - oven - microwave - washing machine	Algorithm, instructions, forwards, backwards, left, right, turn, rotate, debug, sequence, direction, program, call, phone, mobiles, tablets, scales.	During STEM week, the pupils will continue to enhance their programming skills through using bee- bots in child – initiated. Within our term 3 enquiry (Traditional Tales), the pupils will have the opportunity to watch adaptations of familiar traditional tales on the interactive whiteboard. Towards the end of the term, the pupils will be shown how to record videos on devices (recording role play of traditional tales in the home corner).	

Understanding arrows	Introducing the bee - bot	Simple bee- bot programming	Understanding Algorithms	Programming a bee -bot	
Have a route with the arrows set up. Discuss arrows and their meaning. Children stand up, all move 1 step in an arrow direction that you have shown. If you are showing a left and right, they must turn, not side step. Follow set out route.	Children experiment with the bee- bots freely.	Sit children in a circle and share the arrow cards. Show and explain the bee-bot arrows. Place bee- bot sequence cards face down in the circle. Allow children to choose a sequence card and complete the bee- bot programming.	Explain an algorithm is a set of instructions. Hand out sequence card to each child. Children to perform the instructions with their body. Ask children to count steps as they move.	Have bee- bots and sequence cards in the environment. Children explore using the bots with the sequence cards.	

Term 4 – Data Handling "Introduction to Data Handling"

National Curriculum Links: ELGs & Development Matters	Opportunities in CI	Key Vocabulary	Pupil Offer
C&L **Rec**: Articulate their ideas and thoughts in well-formed sentences. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. **ELG:** Make comments about what they have heard and ask questions to clarify their understanding. Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions. Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. **Maths** **Rec:** Count objects, actions and sounds. Subitise. Count beyond ten. Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Continue, copy and create repeating patterns. Compare length, weight and capacity.	Using real life technology in child – initiated, including: - telephones - cameras - tills - torches - oven - microwave - washing machine - calculators - scanners	Sort/ sorting, organise, groups, categories, amounts, count/ counting, more, less, taller, smaller, data, branch database, graph, popular, most, least, call, phone, mobiles, tablets, calculator, scanner, till.	Linking with our enquiry, 'Spring Growth', pupils will be able to explore a range of technology in our home corner this term: a garden centre. Pupils will also have the opportunity to explore seasonal change by looking online at flowers, trees and the weather reports.

Loose parts play	Sorting ourselves	Yes or no?	Creating a branching database	Exploring pictograms
Have tuff tray of loose parts (pinecones, acorns, buttons, lids etc.) and containers to sort into (egg boxes/ muffin trays etc.) Ask children to sort into categories.	In groups of 4-5, children are to sort themselves in height order. Allow time to discuss. Sort into different categories, such as: eye colour, hair colour, types of clothing.	All children to stand up. Explain you will be asking questions. Yes = stay standing No = sit down Ask questions, until there is one child left standing. Change the game; think of one pupil. Ask all to stand, then choose a child to ask a question, "Do they have…" At the end of the game, explain we were 'sorting data'.	In an outdoor area, in groups of 10. Recap the sorting activity from the previous lessons. Explain that the activity today is similar, but we are recording the results. Ask yes/ no questions and have arrows drawn on the floor with chalk (yes one direction, no the other). Ask children to follow the arrows. Continue with different questions and more arrows. Show the children where you started and talk through what happened. Explain that this way of sorting is called a branch database.	Draw a graph on the board, with each fruit at the bottom of each column. Ask the children if they like bananas, and if they do, they must place their photo of the banana in the column. Count the amount and match it up to the graph. Repeat for other fruits.

Term 5 - Computing systems and networks "Exploring hardware"

National Curriculum Links: ELGs & Development Matters	Opportunities in CI	Key Vocabulary	Pupil Offer
C&L **Rec**: Learn new vocabulary. Use new vocabulary through the day. Ask questions to find out more and to check they understand what has been said to them. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Articulate their ideas and thoughts in well-formed sentences. **PSED** **Rec**: See themselves as a valuable individual. **PD** **Rec:** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Confidently and safely use a range of small apparatus, alone and in a group. **UW** **Rec:** Describe what they see, hear and feel whilst outside (or inside).	Using real life technology in child – initiated, including: - telephones - cameras - tills - torches - oven - microwave - washing machine	Computer, laptop, mouse, keyboard, USB stick, system fan, hard drive, monitor, computer tower, speakers, mobile phones, walkie-talkies, tablet/iPad, digital camera, digital clock, remote control, electric toothbrush, record, photos, photographs, camera, flip, timer, album, gallery.	Pupils will have the opportunity to apply their knowledge of capturing photos by taking photos of insects and living things, to link in with our term 5 enquiry 'minibeasts'.

Exploring hardware tinker tray	Real world tinker tray	Photographs- Pictures of play	Picture walk	Class photo album
Lay out the selection of disconnected computer hardware and the tools (screwdriver and magnifying glass) such as mouse, keyboard, USB stick, system fan, hard drive, monitor, computer tower, speakers. Allow the children to explore the tinker tray independently.	Set up a selection of everyday technology, such as mobile phones, walkie-talkies, tablet/iPad, digital camera, digital clock, remote control, electric toothbrush, and tools (magnifying glass). Children explore the objects. Share the **images** and ask children to name and describe the objects.	During child- initiated, choose an appropriate moment and ask if they want to record what they are doing by taking a photograph. These will be recorded on Seesaw and displayed within the classroom to promote discussion.	In small groups take the children on a walk around the school grounds, either indoors or outdoors. Before you set off, decide as a group what you are searching for. For example: shapes, numbers, seasons changing or colours. Allow each child to spot and take a photo. These will then be discussed in class.	1:1 show the child how to digitally flip the camera so they can see themselves. Allow them to experiment and take a few. Look through and let them choose their favourite. Writing extension: write a label/ sentence about their photo.

Term 6- Computing systems and networks "Using a computer"

National Curriculum Links: ELGs & Development Matters	Opportunities in CI	Key Vocabulary	Pupil Offer
PD **Rec:** Develop their small motor skills so that they can use a range of tools competently, safely and confidently. **Lit** **Rec:** Spell words by identifying the sounds and then writing the sound with letter/s. Re-read what they have written to check that it makes sense. **Maths** **Rec:** Link the number symbol (numeral) with its cardinal number value.	Using real life technology in child – initiated, including: - telephones - cameras - tills - torches - oven - microwave - washing machine	Computer, laptop, keyboard, mouse, monitor, log in/ out, cursor, touchpad, clicker, left- click, right- click.	This term, the pupils will be becoming more independent when using computers/ laptops. All computer sessions will be in a guided teacher-directed lesson. Other computing opportunities involve the children using the interactive whiteboard, and capturing their own photographs using the school iPads. Our term 6 enquiry (Under the Sea) will involve using the internet as a mode of research.

Keyboards	Logging in and out	Mouse control	Mouse control (clicking)	Mouse control (clicking and dragging)
Look at a computer/laptop. Discuss and name the different parts. Focus on the keyboard. Discuss if they have used one/ what is it used for? Give each child a keyboard print out. - Look at the letters/ numbers - Call out a number/ letter and ask them to point to it - Colour in the letters in their name	In small groups, provide each child with a computer/ laptop. Provide each with a login card. Ask if they know what 'log in' means. Discuss the importance of computer safety and why we need to log in/ out. Give each child their login card, ask to find name and read the word. Explain that this is their password. Discuss importance of passwords. Help children to enter their name and use the cursor.	In small groups, provide each child with a computer/ laptop. Retrieve and recap learning about logging in. Show the children the mouse and ask if they know the purpose. Show the children that moving the mouse moves the arrow on the screen (cursor). Allow children to explore using the mouse and cursor. Show them how to use the mouse/ touchpad. Let the children experiment with using the cursor on paint or sketchpad.	In small groups, provide each child with a computer/ laptop. Retrieve and recap learning about logging in. Recap using the mouse/ touchpad. Show them the 'stamp' tool on paint. Assist children with using the clickers on the mouse/touchpad. Allow the children to experiment with using the stamp tool.	In small groups, provide each child with a computer/ laptop. Recap previous learning, including logging in, mouse/cursor control, clicking and keyboard. Find an age-appropriate game for the children to play so they can practise clicking and dragging: phonics play or Top Mark's.