Computing Expectations in Reception – Spring 1

Children will be introduced to the Computing Curriculum through dedicated "whole class" and/or small group teaching inputs. The following CoEL's and DM's can be addressed in the Computing Curriculum.

Focussed ICT Resources available to support learning include – bee-bots, mobile phones, torches, metal detectors, iPads, laptops

Characteristics of Effective Learning

(statutory framework, 2021)

Playing and Exploring – Children investigate and experience things and "have a go". *Children could* - plan and think about how they will explore or play with objects; make independent choices; bring their own interests and fascinations into EYs settings to develop their learning; respond to new experiences that you bring to their attention.	**Active learning** – Children concentrate and keep on trying if they encounter difficulties, and enjoy achievements. *Children could* - begin to predict sequences because they know routines; begin to correct their mistakes themselves.	**Creating and thinking critically** – Children have and develop their own ideas, make links between ideas, and develop strategies for doing things . *Children could* - take part in simple pretend play; solve real problems; make links with their ideas; be able to control their attention.

DM & ELG's

Communication and Language – learn new vocabulary and use it in different contexts, ask questions and check understanding, articulate their ideas; connect one idea to another; use talk to help work out problems, engage in non fiction books	**Literacy/Mathematics** – recognise letters and numbers; develop spatial reasoning, continue and copy patterns; develop comparative language and concepts;	**PSED** – show resilience and perseverance in challenge, think about theirs and feelings of others;	**PD** – develop small motor skills – using a range of tools competently and confidently; combine different movements with ease and fluency; develop the foundations of a handwriting style which is fast, accurate and efficient	**Expressive Arts and Design-** explore, use and refine a variety of artistic effects to express their ideas and feelings; return to a build on their previous learning, refining ideas and developing their ability to represent themselves; create collaboratively, share ideas and resources; sing in a group or on their own; develop storylines in their pretend play; explore and engage in music making and dance *ELG – Safely uses and explores a variety of materials, tools and techniques experimenting with colour, design, texture, form and function*	**Understanding the World** – comment on images of familiar situations; draw information from a map; explore the natural world around them; describe what they see, hear and feel outside

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To allow for progression and continuity across the school the following strands of Computer Science and Digital Literacy are applicable to EYFS Reception, and all children need to have experiences that allow for these skills to develop.

We live in a technological world and there is no escape from the reality that technology is integrated into the lives of young children. Just as we ensure the children in our care are ready for the adult world by teaching them maths and literacy, we should also make sure that they are fluent in computer literacy and all-important e-safety.

. **KEY SKILLS**

- I can switch on and off a range of digital devices (iPads/Laptops)with adult support
- I can use a mouse/touch screen
- I can interact with age appropriate software and apps
- I can use the equipment safely and with care

Computer Science

- help adults operate equipment around the school
- press buttons on floor robots and begin to talk about the movements
- make choices with toys, software and apps

Information Technology

- understand that things can be created by different technology
- understand that they can share things they create
- begin to recognise that the internet can be a place to learn and play

Digital Literacy - Multimedia

- use a mouse to rearrange objects on a screen
- recognise text and images when using ICT
- use a camera to take photographs
- use a simple paint program to create a picture
- age appropriate websites and apps

E-Safety

- Talk about good and bad choices in real life (taking turns/ being a friend etc)
- ask an adult when they want to use the internet
- tell an adult when something worrying or unexpected happens when online
- talk about time restrictions and how long I should be on a device

Computing Ideas – Spring 1

Technology in the Early Years can mean:

taking a photograph with a camera or tablet

searching for information on the internet

playing games on the interactive whiteboard

exploring an old typewriter or other mechanical toys

using a Beebot

watching a video clip

listening to music

Whole School focus - Algorithms – sequencing a set of pictures, listening to and following a set of instructions (how to brush your teeth etc)

Playing the "Yes/No" game

Threading pasta/beads according to set pattern

Coding activities without using technology!
https://igamemom.com/kids-activities-learn-coding-without-computer

https://www.youtube.com/watch?v=ZQ_KeOQi2Cs

Mask out a grid on the carpet…can children describe how they need to move to get to an object on grid?

Twinkl bee bot mats

Barefoot computing resources - https://www.barefootcomputing.org/earlyyears

Purple Mash Mini Mash – Simple City

CEOP Think U know e-safety resources
Digi Duck stories https://www.childnet.com/resources/digiduck-stories/
E-safety "learn to read book" https://www.childnet.com/resources/a-learning-to-read-book/

Prompt cards that develop questioning skills in Computing

Barefoot
Computing at School

'Computational Thinking' is a set of problem solving skills that we can use in everyday life.

These cards provide key questions to prompt discussion in your classroom linked to the Barefoot computational thinking concepts and approaches.

Instructions: 1.Print on good quality card or paper. 2. Cut out and fold each concept card in half 3. Hole punch where indicted and thread on key ring loop 4. Add to lanyard. (You could laminate)

Collaboration

Playing and working collaboratively

Prompts and questions

- What shall I do? Good idea, I will get...
- Who did you work with?
- Whose turn is it?
- Do you have the same as...?
- Who can you work with to change this?

Creating

Making things, checking and fixing things

Prompts and questions

- How did you make that?
- Show me what it does.
- Did you test it?
- What do you like about yours?
- Does it work as you wanted it to?
- I wonder how it could be better?
- What could you do to change it?

Tinkering

Playing and exploring

Prompts and questions

- Have a go...
- Why don't you try...
- What do you think will happen?
- I wonder what might happen if...

Persevering

Learning from mistakes and not giving up

Prompts and questions

- Self-talk / model how you (the adult) is persevering with something tricky or challenging
- Which part is tricky?
- How can we fix the tricky part?
- Let's try and finish what we have started

Abstraction

Working out what is important and ignoring what is not important, e.g. naming, labelling, sticking to the main theme, summarising

Prompts and questions

- What do you need to include?
- Which parts are important?
- Why do / don't you need that?
- Why did you choose to include.....?
- Do you have the same as...?
- How is yours different? Is that important?

Algorithms

Instructions and sequencing

Prompts and questions

- Which one might come first?
- What comes next?
- Which one is before / after this one?
- Which one is the last one?
- Can you put these steps into the right order?

Decomposition

Breaking problems down into steps

Prompts and questions

- What do we need to do?
- What are the main parts we need to do / make?
- What do we need to do first?
- Which part shall we think about next?
- Self-talk / model how you (the adult) is splitting a task into parts to make it easier, e.g. first we need to make the cake mix, next put

Pattern

This includes comparing, grouping, spotting similarities and differences and working out rules

Prompts and questions

- Are these (objects, pictures etc.) the same?
- What is the same / different about them?
- Can you explain the pattern?
- How can we continue the pattern?
- Is there a mistake in this pattern?
- I wonder how we could fix it...
- Could you make your own pattern from...?
- What is the rule for your pattern?

Logical reasoning

Anticipating, predicting and explaining

Prompts and questions

- I wonder what will happen...
- I wonder how it works...
- Will it...float / sink / break / fall etc? Why? Why not?
- What happened?
- Did that surprise you? Why?
- What have you found out?
- How do you know that?