Computing in Early Years

A Guide for Subject Leaders

Early Years Northumberland

Northumberland County Council

Computing in Early Years

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> We need to help (children) make sense of this world, as well as planting the seeds for their understanding of the implications of technology in their lives and society. This is the start of ‘digital literacy’ and it extends into Key Stage 1.”

Emma Goto, CAS

1. Introduction

An overview of what computing is like in early years and where to find it in the curriculum

Introduction

Computing provides young children with the opportunity to learn skills which prepare them for the technological world we live in.

1.

Computing in Early Years will be taught through a combination of a well-planned learning environment alongside the teaching of specific computing skills delivered through playful adult-led activities.

2.

Technology under the EYFS Reforms (September 2021) is no longer a statutory element within the learning and development requirements of the EYFS Framework. However, due regard should be given to the skills children will need to develop in EYFS to enable them to access the computing curriculum in KS1.

EYFS Computing - Early Learning Goals and Educational Programmes

No specific ELGs directly link to the KS1 Computing Curriculum

Being able to recognise, create and describe patterns as part of Mathematics is fundamental to later computing skills.

Being able to follow instructions involving several ideas or actions as part of Communication and Language is fundamental to later computing skills.

Being able to talk about ways to keep themselves safe as part of Personal, Social and Emotional Development are a precursor to E-Safety themes in KS1.

Other key skills across the EYFS curriculum which support Computing include: fine motor skills; being able to retrieve and understand information from non-fiction sources

2. Child-Initiated Learning

Key indicators and examples of effective practice when monitoring computing in the early years, in relation to child-initiated learning through an enabling environment

An Enabling Environment for Computing - Role Play

- Using technology within play, e.g. phone, computer, keyboard, till, camera, mouse

An Enabling Environment for Computing - Investigation Station

- Using microscopes
- Taking photographs
- Printing photographs
- Using binoculars
- Researching using a tablet to find information
- Sorting items by classified groups

An Enabling Environment for Computing - Carpet

- Using tablets
- Using programmable toys, e.g. beebot.
- Operating and exploring own electronic journal
- Playing online games on interactive whiteboard/screen

An Enabling Environment for Computing - Outdoors

- Using a camera/tablet to take photographs
- Using binoculars to look at wildlife
- Using tablets to record videos and watch then back
- Researching on the internet to find information

Adults Scaffolding Learning During Child-Initiated Activities

What should I see adults doing?

- Observing children and responding to their fascinations
- Responding to their ideas and suggestions
- Suggesting possibilities to extend their thinking
- Offering additional stimulus and resources when appropriate
- Playing alongside children to take learning forwards, suggesting ideas and showing what's possible
- Play alongside, or in small organised groups to model language, correct and/or extend vocabulary
- Sharing their own experiences and making suggestions
- Role modelling thinking aloud and commenting
- Modelling how to use equipment and resources
- Posing questions and/or 'ponderings' to stimulate ideas and add challenge e.g. What could you use instead? I wonder how? Tell me why?
- Using and introducing language and vocabulary linked to key learning

3. Adult-Led Learning

Key indicators of effective practice when monitoring computing in the early years, in relation to adult-led learning.

What should I expect to see when adults leading a computing activity?

- Adults set an intention for learning that is well matched to the developmental stages of the children, building on what children already know and can do and show an interest in.
- Adults guide learning through playful, experiential activities which are presented in imaginative ways, are hands-on and require active participation from the children
- Activities and experiences are as open-ended as possible to allow for children's imagination and active exploration and for them to express their own ideas.
- Activities and experiences are delivered with individual children, small groups of children depending on the activity and the age/developmental stage of the children. In Reception, sometimes activities are introduced as a whole class.
- Adults use resources and materials that children are familiar with and have or/will have access to in their child-initiated play.
- Adults skillfully interact with the children through open questioning, by modelling thinking aloud and through genuine interest and curiosity.

4. Skills Progression

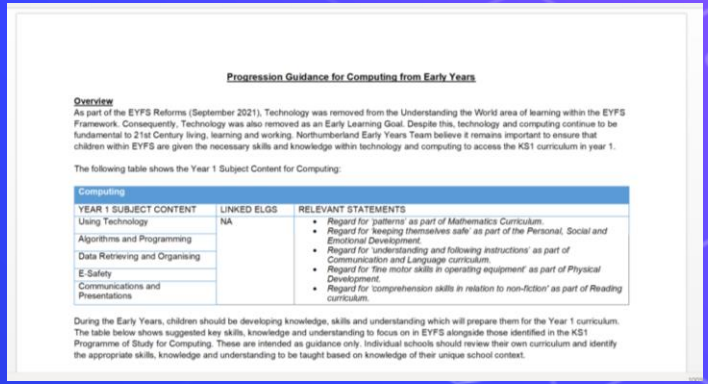
Guidance on developing a progressive computing curriculum from early years and into KS1

How should I decide what is taught when?

Northumberland Early Years Team have created Progression Guidance Documents to support you in identifying what this will look like in your school.

You can access this tool by clicking here.

For further support and advice please contact your EY Consultant.



Progression Guidance for Computing from Early Years

Overview

As part of the EYFS Reforms (September 2021), Technology was removed from the Understanding the World area of learning within the EYFS Framework. Consequently, Technology was also removed as an Early Learning Goal. Despite this, technology and computing continue to be fundamental to 21st Century living, learning and working. Northumberland Early Years Team believe it remains important to ensure that children within EYFS are given the necessary skills and knowledge within technology and computing to access the KS1 curriculum in year 1.

The following table shows the Year 1 Subject Content for Computing:

Computing		
YEAR 1 SUBJECT CONTENT	LINKED ELGS	RELEVANT STATEMENTS
Using Technology Algorithms and Programming Data Retrieving and Organising E-Safety Communications and Presentations	NA	• *Regard for 'patterns' as part of Mathematics Curriculum.* • *Regard for 'keeping themselves safe' as part of the Personal, Social and Emotional Development.* • *Regard for 'understanding and following instructions' as part of Communication and Language curriculum.* • *Regard for 'fine motor skills in operating equipment' as part of Physical Development.* • *Regard for 'comprehension skills in relation to non-fiction' as part of Reading curriculum.*

During the Early Years, children should be developing knowledge, skills and understanding which will prepare them for the Year 1 curriculum. The table below shows suggested key skills, knowledge and understanding to focus on in EYFS alongside those identified in the KS1 Programme of Study for Computing. These are intended as guidance only. Individual schools should review their own curriculum and identify the appropriate skills, knowledge and understanding to be taught based on knowledge of their unique school context.