

## Progression of Computing



### Curriculum Knowledge and Skills Progression Document for Computing

#### Knowledge, skills and understanding breakdown for EYFS

##### Nursery

- Do they explore how things work? e.g. cameras, torches, iPads, walkie-talkies, hand whisks
- Do children know how to operate simple equipment? e.g. turns on CD player, uses remote control
- Can they navigate touch-capable technology with support?
- Do they show an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets?
- Do they show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images?
- Do they know that information can be retrieved from digital devices and the internet?
- Do they play with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet?
- Do they show an interest in letters on a keyboard?
- Do they handle touchscreen technology carefully and the correct way up?

##### Reception

- Can they complete a simple program on electronic devices?
- Can they use ICT hardware to interact with age appropriate computer software?
- Can they create content such as a video recording, stories, and/or draw a picture on a screen?
- Do they develop their digital literacy skills by being able to access, understand and interact with a range of technologies?
- Can they use the internet with adult supervision to find and retrieve information of interest to them?
- Do they understand the need for passwords and basic internet safety techniques and can they talk about why these are important?
- Can they use, draw or paint using a keyboard or touch screen technology?
- Do they enjoy digital books?
- Do they understand different digital communities and how we use these to communicate and share information? (E.g. DoJo, Facebook)
- Do they use everyday technology within their play? e.g. debit cards, card machines, washing machine, tumble dryer.
- Can they operate simple household appliances and can they explain what they are used for? E.g. fridge, microwave.
- Do they understand the uses of everyday technology? E.g. printers, calculators, photocopiers

##### ELG – end of reception

There are no early learning goals that directly relate to computing objectives, though it is still expected that children will be introduced to appropriate technology and use it within their provision. Within Reception, children require access to a range of technologies, both digital and non-digital in their early lives. Children need to be leaving Reception with a good understanding of our technologically diverse world and should view technologies as tools to learn both from and with. Children should be competent to explore with different technologies through their play.

- 1: understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions
- 2: create and debug simple programs
- 3: use logical reasoning to predict the behaviour of simple programs
- 4: use technology purposefully to create, organise, store, manipulate and retrieve digital content
- 5: recognise common uses of information technology beyond school
- 6: use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies

## Knowledge, skills and understanding breakdown for Year 1

### Computing systems and networks – Technology around us

NC 4, 5, 6

To identify a computer and its main parts

To use a mouse in different ways

To use a keyboard to type on a computer

To use the keyboard to edit text

To create rules for using technology responsibly

- Creating media – Digital painting

NC: 6

To describe what different freehand tools do

To use the shape tool and the line tools

To make careful choices when painting a digital picture

To explain why I chose the tools I used

To use a computer on my own to paint a picture

To compare painting a picture on a computer and on paper

- Creating media – Digital writing

NC: 4, 6

To use a computer to write

To add and remove text on a computer

To identify that the look of text can be changed on a computer

To make careful choices when changing text

To explain why I used the tools that I chose

To compare writing on a computer with writing on paper

- Data and information – Grouping data

NC: 4, 6

To label objects

To identify that objects can be counted

To describe objects in different ways

To count objects with the same properties

To compare groups of objects

To answer questions about groups of objects

- Programming A – Moving a robot

NC: 1, 2, 3, 5

To explain what a given command will do

To act out a given word

To combine forwards and backwards commands to make a sequence

To combine four direction commands to make sequences

To plan a simple program

To find more than one solution to a problem

- [Programming B – Introduction to animation](#)

NC: 1, 2, 3

To choose a command for a given purpose

To show that a series of commands can be joined together

To identify the effect of changing a value

To explain that each sprite has its own instructions

To design the parts of a project

To use my algorithm to create a program

## Year 2

Computing systems and networks – IT around us

NC: 4, 5, 6

To recognise the uses and features of information technology

To identify information technology in the home

To identify information technology beyond school

To explain how information technology benefits us

To show how to use information technology safely

To recognise that choices are made when using information technology

Creating Media - Digital Photography

NC: 4, 5, 6

To use a digital device to take a photograph

To make choices when taking a photograph

To describe what makes a good photograph

To decide how photographs can be improved

To use tools to change an image

To recognise that photos can be changed

Creating Media - Making music

NC: 4

To say how music can make us feel

To identify that there are patterns in music

To describe how music can be used in different ways

To show how music is made from a series of notes

To create music for a purpose

To review and refine our computer work

Data and Information - Pictograms

NC: 4, 6

To recognise that we can count and compare objects using tally charts

To recognise that objects can be represented as pictures

To create a pictogram

To select objects by attribute and make comparisons

To recognise that people can be described by attributes

To explain that we can present information using a computer

Programming A - Robot algorithms

NC: 1, 2, 3, 6

To describe a series of instructions as a sequence

To explain what happens when we change the order of instructions

To use logical reasoning to predict the outcome of a program (series of commands)

To explain that programming projects can have code and artwork

To design an algorithm

To create and debug a program that I have written

Programming B – An introduction to quizzes

NC: 1, 2, 3

To explain that a sequence of commands has a start

To explain that a sequence of commands has an outcome

To create a program using a given design

To change a given design

To create a program using my own design

To decide how my project can be improved

### Progression of vocabulary for at EYFS

#### Nursery

On  
Off  
Play  
Pause  
Keyboard  
Click  
Tablet  
Forwards  
Backwards  
Start  
Stop  
Twist  
Wind-up  
Pull  
Push  
Press  
Mouse  
Photo  
Video

#### Reception

safety  
cursor  
type  
internet  
search  
online  
email  
website  
minimise  
maximise  
print  
photocopy  
interactive whiteboard  
volume  
save  
delete  
record  
password  
download  
share  
post  
locked  
unlocked

### Progression of vocabulary for ICT at year 1

technology

parts  
computer  
switch  
log  
drag  
program  
screen  
keyboard  
file  
edit  
arrow  
keys  
freehand  
screen  
tools  
shape tool  
line tools  
digital picture  
word processor  
remove  
text  
space keys  
backspace  
toolbar  
bold  
italic  
underline  
double-clicking  
clicking  
font  
undo  
property  
command  
predict  
device  
forwards  
backwards  
sequence  
direction commands  
move  
turn  
debug  
sprite  
block  
value  
algorithm  
programs

## **Progression of vocabulary for ICT at year 2**

information technology

resize  
images  
connected  
devices  
capture  
digital photo  
landscape  
portrait  
format  
retaking  
light sources  
unclear  
tool  
effect  
rhythm pattern  
connect  
experiment  
relate  
sequence  
musical pattern  
represent  
tally  
data  
view  
pictograms  
organise  
arrange  
attribute  
conclusions  
enacted  
unambiguous  
sequences  
outcomes  
consist  
debug  
blocks  
backgrounds  
characters  
design