

Nonsuch Primary School

# Progression to Year 1

Computing Document

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In planning and guiding what children learn, practitioners must reflect on the different rates at which children are developing and adjust their practice appropriately. The three characteristics of Effective Teaching and Learning are:

- **playing and exploring** - children investigate and experience things, and 'have a go';
- **active learning** - children concentrate and keep on trying if they encounter difficulties and enjoy achievements;
- **creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things.

In addition, the prime areas of learning (**PSE, CL, PD**) underpin and are an integral part of children's learning in all areas.

### EYFS Computing Skills

#### EYFS LINKS:

#### Early Learning Goals:

ELG: UTW: Past & Present: Talk about the lives of the people around them and their roles in society.

ELG: UTW: People, Culture and Communities: Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class.

#### Collect photographs and paint pictures – collecting and presenting information

#### Birth to 5 Matters:

Bto5: UTW: Enjoys joining in with family customs and routines

Bto5: UTW: Talks about past and present events in their own life and in the lives of family members

Bto5: UTW: Knows that other children do not always enjoy the same things, and is sensitive to this

Bto5:UTW: Knows about similarities and differences between themselves and others, and among families, communities, cultures and traditions

Bto5: UTW: Looks closely at similarities, differences, patterns and change in nature

Bto5: T: Completes a simple program on electronic devices

Bto5:T: Can create content such as a video recording, stories, and/or draw a picture on screen

#### Information Technology (Data Handling)

#### EYFS LINKS:

#### Early Learning Goals:

#### Birth to 5 Matters:

Bto5: M: Counts out up to 10 objects from a larger group

Bto5: M: Matches the numeral with a group of items to show how many there are (up to 10)

Bto5:M: Estimates of numbers of things, showing understanding of relative size

Bto5: T: Completes a simple program on electronic devices

Bto5:T: Uses ICT hardware to interact with ageappropriate computer software

Bto5:T: Can create content such as a video recording, stories, and/or draw a picture on screen

Bto5: T: Develops digital literacy skills by being able to access, understand and interact with a range of technologies

Bto5:T: Can use the internet with adult supervision

#### Simple algorithms and programs -(Digital literacy)

#### EYFS LINKS:

#### Early Learning Goals:

ELG: C&L: 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.

ELG: C&L: Make comments about what they have heard and ask questions to clarify their understanding.

#### Birth to 5 Matters:

Bto5:M: Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints

Bto5: T: Completes a simple program on electronic devices

Bto5:T: Uses ICT hardware to interact with ageappropriate computer software

Bto5:T: Can create content such as a video recording, stories, and/or draw a picture on screen

Bto5: T: Develops digital literacy skills by being able to access, understand and interact with a range of technologies

Bto5:T: Can use the internet with adult supervision.

## EYFS Computing Knowledge

### Autumn 1 - All About Me / Autumn - Computing and Networks – Digital literacy and Computer Science

#### Unit 1 Linked to Year 1 – Networks and Systems

- LO: I can use a keyboard and locate relevant keys
- LO: I can log in and out
- LO: I can learn what a mouse is and develop control when using a mouse
- LO: I can develop basic mouse skills, including moving and clicking and using an online paint tool.
- LO: I can develop basic mouse skills, including moving and clicking and dragging using an online paint tool.

Children use very simple software on Computers which links with their cross curricular subjects e.g. lives of people of interest to them. The children will be able to name and use simple hardware.

**Links to All about Me – painting on JIT5 or Microsoft Paint**

#### Key Vocabulary

Monitor, Computer tower, Keyboard, Mouse, Letters, Numbers, Uppercase, Lowercase, Type Log in, Log out, Left Click, Right Click, Arrow, Cursor, Click, Drag, Move, Drop, Stamp, Paint

### Spring 1 - Chinese New Year / Winter / Valentine's Day - - Digital Literacy

#### Unit 2 Linked to Year 1 –Programming 1 – All about pictures

- LO: I can follow instructions
- LO: I can learn to give simple instructions
- LO: I can follow instructions to dress up and give simple instructions to others
- LO: I can debug instructions
- LO: To predict the outcome of a set of instructions

#### Links to Diwali, Chinese New Year and Christmas – programming

Children work with Bee bots to make a floor robot move. They look at simple instructions using the vocabulary forwards and backwards. They make choices about the buttons and icons they press, touch or click on.

#### Key Vocabulary

Instructions, Two part instructions, Algorithm, Sequence, Order, First, Second, Third, Next, Last, Predict, Prediction

### Spring 2 – Traditional Tales / Mother's Day / Easter - Computing and Networks – Computer Science

#### Unit 3 Linked to Year 1; Computing Systems and Networks 2: Exploring Hardware

- LO: I can explore and tinker with different hardware
- LO: I can identify familiar places where technology is used
- LO: I can learn to operate a basic camera to take photos
- LO: I can develop my ability to operate a basic camera to take photos
- LO: I can take selfie photos to create a class gallery

Children use iPads and special child friendly cameras to take photos of their work, surroundings and themselves. Children use headphones to access software on the computer and on iPads. They use it for their topic work e.g. creating a picture of an animal or writing about it. They look at using the doodle and Bee bot app on the Ipad and various other software They make choices about the hardware and software that they want to use both on the computer and iPads.

**Links to Traditional Tales, Maths, Easter - photos**

#### Key Vocabulary

Mouse, Buttons, Keyboard, Keys, Speaker, Click, Photo, batteries, Technology, On/Off, Power, Tablet, Lens, Shoot, Photograph, Blurry, Image, Point, Photographer, Selfie

### Summer 1 - St. George's Day / Spring and Growth - Digital Literacy

<p><b>Unit 4 Linked to Year 1: Programming 2 : Programming Bee Bots</b></p> <ul style="list-style-type: none"> <li>• LO: I can understand directional arrows and use them to follow instructions</li> <li>• LO: I can experiment with programming a Bee Bot</li> <li>• LO: I can experiment with programming a Bee Bot and can give simple commands</li> <li>• LO: I can understand an algorithm and learn to debug it</li> <li>• LO: I can program a Bee Bot with an algorithm and debug it when things go wrong.</li> </ul>	<p>Children work with Bee bots to make a floor robot move. They look at simple instructions using the vocabulary forwards and backwards. They make choices about the buttons and icons they press, touch or click on. They develop their skills to make the Bee bot turn in different directions following simple codes/instructions.</p> <p><b>Links to Spring and Growth – programming -locating the animals</b></p>
<b>Key Vocabulary</b>	
Forward, Back, Backwards, Right, Left, Arrow, Direction, Turn, Straight on, Directions, Route, Algorithm, Instructions, Debug, Program, Sequence	
<b>Summer 2 – The Farm / Father’s Day - Information Technology (Data Handling)</b>	
<p><b>Unit 5 Linked to Year 1: Data Handling –Introduction to data</b></p> <ul style="list-style-type: none"> <li>• LO: I can sort and categorise objects</li> <li>• LO: I can sort myself based upon given categories</li> <li>• LO: I can respond to yes/no questions as an introduction to branching databases</li> <li>• LO: I can create a branching database (through physical sorting and categorising)</li> <li>• LO: I can interpret a basic pictogram</li> </ul>	<p>Children use very simple software on Computers which links with their cross curricular subjects e.g reading for English, creating simple maths shape or sums. They use simple programs to create pictograms linked to their Maths or Science work.</p> <p><b>Links to Farm – Pictograms and Sorting/Branching databases</b></p>
<b>Key Vocabulary</b>	
Sort, Categorise, Group, Share, Divide, Describe, Branch Database, Pictogram, Column, Row, Graph, Square, Data, Collect, Record, Least Popular, Most Popular	
<p><b>By the end of EYFS children should be able to:</b></p> <p>Recognise and use a camera  Be able to locate letters on a keyboard  Be able to operate a device by pressing buttons  Be able to use basic tools  Observe differences  Be able to program and debug a Bee Bot</p> <p><b>How does the Kapow EYFS Computing Scheme link to Year 1 (Taken from KAPOW)</b></p> <p>The lessons are a natural precursor to our Year 1 computing plans and focus on how to naturally incorporate computing into all areas of learning within the EYFS curriculum.</p> <p>Topics and concepts are introduced in imaginative and easy to understand ways, ensuring that children acquire a solid foundation of understanding and make a smooth transition to the KS1 scheme of work.</p> <p>Both the EYFS and Year 1 computing schemes features a unit all about programming a Bee-Bot. While the Year1 lessons focus on programming the Bee-Bots to follow set paths and getting to grips with the finer points of algorithms, the EYFS Bee-Bot unit begins simply with understanding arrows. This is because in order to understand algorithms (sets of instructions) and programming, children first need to know how to give simple instructions and what directional arrows mean. It is in this way that our schemes work together in</p>	

perfect symbiosis – the EYFS scheme building the foundations and bridging the gaps so that children can enter Year 1 with all the building blocks in place to continue their computing journey.

### Year 1 link to the National Curriculum

#### **Aims:**

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

#### **Subject Knowledge:**

Pupils should be taught to:

- understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- 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