

# Subject Progression



## Computing

To enrich and to fully prepare children to go out into our ever-evolving technological world, we will ensure the children will be able to do the following things before they leave Pilton Infants' School in Year 2 : ▪ Safely turn a computer on and off ▪ Save and retrieve documents Send a document to print ▪ Be able to create animations ▪ Create their own photograph and explain the choices behind it.

	Reception Barefoot CAS EYFS UNITS	Year 1 NCCE Teach computing	Year 2 NCCE Teach computing
	Non-statutory - Barefoot CAS links to the EYFS curric e.g. understanding the world.	*Please see table below for National Curriculum objective coverage	
<b>Autumn</b>	<p><b>Awesome Autumn</b></p> <p>Elicitation: Can you create a pattern using blocks?</p> <p>Creating Pattern Logic</p> <p>Creating with Materials</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;</p> <p>Fine Motor Skills</p> <p>Use a range of small tools, including scissors, paint brushes and cutlery;</p> <p>Active Learning</p> <p>Respond to new experiences that you bring to their attention</p> <p>Creating and thinking critically</p>	<p><b>Technology Around us (IT) (OS)</b></p> <p>Elicitation:</p> <p>What is technology? Can you see any pieces of technology in the classroom?</p> <p>To identify technology</p> <p>To identify a computer and its main parts</p> <p>To use a mouse in different ways</p> <p>To use a keyboard to type on a computer</p> <p>To use the keyboard to edit text</p> <p>To create rules for using technology</p> <p>End point: Children will be able to explain that technology is something that helps us and I can locate examples in the classroom.</p> <p><b>Digital Painting (IT)</b></p> <p>Elicitation:</p> <p>Can you create a drawing of yourself on the paintz app?</p>	<p><b>Information technology around us (IT) (OS)</b></p> <p>Elicitation: Can you identify examples of IT and explain why we use IT in school?</p> <p>To recognise the uses and features of information technology</p> <p>To identify information technology in the home</p> <p>To identify information technology beyond school</p> <p>To explain how information technology benefits us</p> <p>To show how to use information technology safely</p> <p>To recognise that choices are made when using information technology</p> <p>End point: Children will be able to identify examples of IT and be able to sort common types of technology.</p>

Review their progress as they try to achieve a goal. Check how well they are doing. Mathematics 3 and 4 year olds – Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern.

End point: Children to create a leaf pattern with your partner?

### Winter Warmers

Algorithms Decomposition  
Creating Collaborating

Building Relationships

Work and play cooperatively and take turns with others;

Fine Motor Skills

Use a range of small tools, including scissors, paint brushes and cutlery;

The Natural World

Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.  
Understanding the world

To describe what different freehand tools do

To use the shape tool and line tool  
To make careful choices when painting a digital picture

To explain why I used the tools I did  
To use a computer on my own to paint a picture

End point: I can create famous drawing online using tools on the paint app.

Online safety review December

### Digital Photography (IT)

Elicitation: Can you capture two photographs, one in landscape and one in portrait?

To know what devices can be used to take photographs  
To use a digital device to take 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 images  
End point: I can capture a photograph and experiment with light, zooming and retaking it.

Online safety review December

	<p>Begin to understand the need to respect and care for the natural environment and all living things.</p> <p><b>Elicitation: Can the children follow a set of instructions?</b></p> <p>End point: Children to follow a set of instructions to create a bird feeder.</p> <p>Online safety review December</p>		
<p><b>Spring</b></p>	<p><b>Busy Bodies</b></p> <p><b>Elicitation: Can you create/draw a picture of the human body.</b></p> <p>Logic Pattern Abstraction</p> <p>Understanding the World Continue developing positive attitudes about the differences between people.</p> <p>Literacy Understand that print has meaning - Engage in extended conversations about stories, learning new vocabulary.</p> <p>End Point: I can draw a human body using what I know.</p> <p><b>Springtime</b></p>	<p><b>Moving a Robot (CS)</b></p> <p><b>Elicitation: Can you follow a set of instructions to move your beebot from A to B?</b></p> <p>To explain what a given command will do</p> <p>To act out a given word</p> <p>To combine forwards and backwards commands to make a sequence</p> <p>To combine four direction commands to make sequences</p> <p>To plan a simple program</p> <p>To find more than one solution to a problem</p> <p>End point: I can predict the outcome of a sequence and compare two algorithms.</p> <p><b>Grouping data (DL)</b></p>	<p><b>Robot Algorithms (CS)</b></p> <p><b>Elicitation: can you programme the beebot to move from A to B?</b></p> <p>To describe a series of instructions as a sequence</p> <p>To explain what happens when we change the order of instructions</p> <p>To use logical reasoning to predict the outcome of a program (series of commands)</p> <p>To explain that programming projects can have code and artwork</p> <p>To design an algorithm</p> <p>To create and debug a program that I have written</p> <p>End Point: I can programme a robot to move from A to B. I can plan a simple programme.</p>

**Elicitation: Using the junk modelling can you create your own springtime object?**

Abstraction Tinkering Creating Collaborating

The Natural World: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. ELG: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; Share their creations, explaining the process they have used; Understanding the world: Plant seeds and care for growing plants. Begin to understand the need to respect and care for the natural environment and all living things. Understand the effect of changing seasons on the natural world around them. Explore the natural world around them.

**End Point: Children to persevere to create their own junk scarecrow.**

Online safety review February

**Elicitation: Can you group your set of objects into similarities and differences?**

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

**End point: I can group a set of objects and label why I have grouped them.**

Online safety review February

### **Pictograms (DL)**

**Elicitation: Can you create a pictogram to represent children with blue eyes/green and brown?**

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

**End point: I can collect and draw conclusions on a set of pictogram data. I can use a programme to demonstrate this.**

Online safety review February

## Summer

### Summer Fun

Elicitation: Can you work with a partner to create a map of the school?

Creating Pattern Persevering

Active Learning

Bring their own interests and fascinations into early years settings. Respond to new experiences that you bring to their attention.

Creating and thinking

critically help children to extend their ideas through sustained discussion that goes beyond what they, and you, have noticed.

Communication and Language  
Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.

Mathematics

Count objects, actions and sounds. - Compare numbers.

End Point: Children to work collaboratively with a group on creating a whole school map.

### Digital Writing (DL)

Elicitation: Can you use the word application to write about your family? Can you change the font and change the colour?

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

End point: Children will be able to write up a piece of work including changing the font and colour.

### Programming animations (CS)

Elicitation: Can you create a programme including start, add blocks and test my programme.

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

### Making Music (DL)

Elicitation: Can you create a song on the application?

To say how music can make us feel (not a computing related progression step)

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

End point: I can open and create a simple song and explain my choices.

### Programming Quizzes (CS)

Elicitation: Can you debug my scratch programme?

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

End point: I can create and debug a programme including predicting the outcomes of my algorithm.

**Boats Ahoy**

**Elicitation: What do you notice about all boats?**

Logic, pattern, abstraction

Communication and Language  
ELG: Use a wider range of vocabulary. Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary.  
Literacy: Understand that print has meaning

**End Point: Children to explain what they notice about all boats.**

Online safety review May

**End point: Children will be able to start, add blocks and test my programme.**

Online safety review May

Online safety review May

National Curriculum Coverage – Key Stage 1 Computing Curriculum	1.1 Technology around us	1.2 Digital painting	1.3 Moving a robot	1.4 Grouping data	1.5 Digital writing	1.6 Programming animations	2.1 Information technology around us	2.2 Digital photography	2.3 Robot algorithms	2.4 Pictograms	2.5 Making music	2.6 Programming quizzes
	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	✓				✓	✓	✓			✓		

	Playing and Exploring	Active Learning	Creating and thinking critically
Tinkering	✓	✓	
Creating			✓
Collaboration			
Persevering	✓	✓	
Logic	✓		✓
Pattern	✓		✓
Abstraction	✓		✓
Algorithms and decomposition	✓		✓