Computing Curriculum Map

EYFS

The most relevant statements for computing are taken from the following areas of learning:
- Personal, Social and Emotional Development
- Physical Development
- Understanding the World
- Expressive Arts and Design

By the end of Nursery, we expect children to be able to:
- Remember rules without needing an adult to remind them
- Match their developing physical skills to tasks and activities in the setting
- Explore how things work

By the end of Reception, we expect children to be able to:
- Show resilience and perseverance in the face of a challenge
- Know and talk about the different factors that support their overall health and wellbeing:
  - sensible amounts of 'screen time'
- Develop their small motor skills so that they can use a range of tools competently, safely, and confidently
- Explore, use and refine a variety of artistic effects to express their ideas and feelings.
- Be confident to try new activities and show independence, resilience, and perseverance in the face of challenge
- Explain the reasons for rules, know right from wrong and try to behave accordingly
- Safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form and function

Year 1	When they leave Year 1, children should be able to:
	• Recognise common uses of information technology.
	• Understand where to go for help and support when they have concerns about content or contact om the internet or other online technologies.
	• To use technology purposefully to create digital content.
	• Predict the behaviour of simple programs.
	• Understand what algorithms are and how they implemented on digital devices.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
NT Unit 1, Aut 1:	**NT Unit 1, Aut 2:**	**NT Unit 1, Spr 1:**	**NT Unit 1, Spr 2:**	**NT Unit 1, Sum 1:**	**NT Unit 1, Sum 2:**
Keeping Safe and Exploring Technology	Exploring Digital Sound	Making Multimedia Stories	Programming Direction	An Introduction to Digital Art	Action Algorithms!

Year 2	**When they leave Year 2, children should be able to:**
	• Recognise common uses of information technology beyond school.
	• Use technology purposefully to create, organize, store, manipulate and retrieve digital content.
	• Use technology safely and keep personal information private.
	• Use technology purposefully to create digital content, comparing the benefits of different programs.
	• Use logical reasoning to predict the behaviour of simple programs.
	• Create and debug simple programs.
	• Debug simple programs by using logical reasoning to predict the actions instructed by the code.
	• Understand that programs execute by following precise and unambiguous instructions.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	NT Unit 2, Aut 1 Writing in Different Styles	**NT Unit 2, Aut 2:** An Introduction to Animation	**NT Unit 2, Spr 1:** Programming with Scratch Jr	**NT Unit 2, Spr 2:** Finding and Presenting Information	**NT Unit 2, Sum 1:** Programming with Logo	**NT Unit 2, Sum 2:** Beginning to Present Information

Year 3	When they leave Year 3, children should be able to:

When they leave Year 3, children should be able to:

- Recognise an input and output device and how they are used.

- Make efficient use of familiar forms of input and output devices.*

- Understand that computer network enables the sharing of data and information.

- Understand that the internet is a large network of computers and that information can be shared between computers.

- With support select and use a variety of software to accomplish goals.

- Use technology safely and respectfully keeping personal information private.

- Use technology safely and recognise acceptable and unacceptable behaviour.

- Design write, and debug programmes that control or simulate virtual events.

- Use logical reasoning to explain how some simple algorithms work.

- Use simple search technologies.

- Use simple search technologies and recognise that some sources are more reliable than others.

*Inputs and outputs can be taught with coding in lots of different ways, including Scratch, and they come up in many of our units in KS2, but these objectives suggest the use of physical devices such as sensors which can be done with LEGO WeDo, which can be loaned from NT. There's lots of other options too – NT can support with this.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
NT Unit 3, Aut 1 Digital Literacy and online safety	**NT Unit 2, Aut 2** Communication and collaboration* *Requires student email accounts	**NT Unit 2, Spr 1** Animation with Scratch	**NT Unit 2, Spr 2** Databases	**NT Unit 2, Sum 1** Digital imagery: Patterns in nature* *Other creative units are available in NT Scheme	**NT Unit 2, Sum 2** Getting started with Kodu

Year 4	When they leave Year 4, children should be able to:
	• With support, select and use a variety of software on a range of digital devices.
	• With support, select, use, and combine a variety of software on a range of digital devices to accomplish given goals.
	• Use technology responsibly and understand that communication inline may be seen by others.
	• Understand where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
	• Understand how results are selected and rank by search engines.
	• Use filters in search technologies effectively. (TT Y5)
	• Use filters in search technologies effectively and appreciate how results and selected and ranked. (TT Y5)
	• Use filters in search technologies effectively and is discerning when evaluating digital content. (TT Y6)
	• Decompose programmes into smaller parts.
	• Use logical reasoning to detect and correct errors in algorithms and programs.
	• Select, use, and combine a variety of software, systems and content that accomplish given goals.
	• Decompose programmes into smaller parts.
	• Use logical reasoning to detect and correct errors in algorithms and programs.
	• Select, use, and combine a variety of software, systems and content that accomplish given goals.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	NT Unit 2, Aut 1: Digital Literacy and Online Safety	NT Unit 2, Aut 2: Searching the Web	NT Unit 2, Spr 1: Programming Scratch Maze Games	NT Unit 2, Spr 2: 3D Design – Digital Modelling	NT Unit 2, Sum 1: Kodu Sports	NT Unit 2, Sum 2: Computational Thinking – Alien Contact!

Year 5	When they leave Year 5, children should be able to:

When they leave Year 5, children should be able to:

- Begin to use internet services to share and transfer data to a third party.

- Independently select and use appropriate software for a task.

- Independently select, use, and combine a variety of software to design and create content for a given audience.

- Understand the need to only select age-appropriate content.

- Design, input and test an increasingly complex set of instructions to a program or device.

- Design, write, and debug programs that accomplish specific goals including controlling or simulating physical systems.

- Design, write, and test simple programs that follow a sequence of instructions or allow a set of instructions to be repeated.

- Design, write, and test simple programs with opportunities for selection where a particular result will happen based on actions or situations controlled by the user.

- Use logical reasoning to explain how increasingly complex algorithms work to ensure a programs efficiency.

- Use other input devices such as cameras or sensors. (Y4TT)

- Understand what servers and how they provide services to a network. (Y4TT)

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
NT Unit 2, Aut 1: Digital Literacy and online safety	NT Unit 2, Aut 2: Building Retro Games – Pick a Project	NT Unit 2, Spr 1: Building Collaborative Websites* *Requires Google Sites	NT Unit 2, Spr 2: Manipulating Sound	NT Unit 2, Sum 1: What is a Computer?	NT Unit 2, Sum 2: Programming Robots

Year 6	When they leave Year 6, children should be able to:

When they leave Year 6, children should be able to:

- Understand how computer networks enable computers to communicate and collaborate.

- Begin to use the internet within their own creations to share and transfer data.

- Independently select, use, and combine a variety of software to design and create content for a given audience including collecting analysing, evaluating, and presenting data and information.

- Design and create a range of programs, systems and content for a given audience.

- Independently select, use, and combine a variety of software to collect, analyse, evaluate and present data and information.

- Use technology respectfully and responsibly.

- Identify a range of ways to report concerns about content and contact in and out of school.

- Be discerning when evaluating digital content.

- Include use of sequences, selection, and repetition with the hardware used to explore real world systems.

- Solve problems by decomposing them into smaller parts.

- Create programs which use variables.

- Use variables, sequence, selection, and repetition in programs.

- Use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
NT Unit 2, Aut 1: Digital Literacy and Online Safety	NT Unit 2, Aut 2: Spreadsheet Masters	NT Unit 2, Spr 1: Geeting Started with the BBC Micro:bit	NT Unit 2, Spr 2: Creating Instructional Videos	NT Unit 2, Sum 1: Manipulating Images	NT Unit 2, Sum 2: Inside the Internet

Other units which link to some of the above objectives are as follows:
Building Retro Games - Pick a project (Y5 unit); Programming Robots (Y5 unit); Getting started with Kodu (Y3 Unit); Kodu Sports (Y4 Unit)