COMPUTING AT NEWTON

Intent:

Our Computing curriculum at Newton aims to equip pupils to use computational thinking and creativity to better understand the world and to become informed members of the digital community.

This is achieved in the following ways:

- through Computer Science – pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
- equipping pupils to use information technology to create programs, systems and a range of content.
- supporting pupils to become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world
- ensuring that children know how to keep themselves safe when working online either at school or home and know how to behave in safe ways when online

Implement:

At Newton , we use The Purple Mash Computing Scheme of Work which is delivered through three main focus areas:

- Computing
- Technology
- Digital Competence

Children will undertake a broad range of learning units that will ensure even coverage of each of these main focus areas, ensuring that knowledge is gained and skills built in a sequential fashion year on year.

LEARNING OVERVIEW

2023-24 (Cycle A)
2024-25 (Cycle B)
2025-26 (Cycle C Oak Class/Cycle A Juniper and Willow Classes)

EYFS	Children in EYFS will undertake learning and activities related to the **content** of the Year 1 Computing curriculum (see unit plans for detail) but being consistent with EYFS pedagogy. Whilst Computing/Technology does not feature in the EYFS Framework, children at Newton will explore key foundational skills within the broader context of learning in other areas - these skills include: • Mouse and track-pad skills

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	• Keyboard skills • Using an individual login • Using drawing programmes • Gaining an understanding of the need for safety when using technology					
JUNIPER Year cycle (A/B repeats)	Intro Unit: Basic Computer Skills Unit 1.1 Online Safety and Exploring Purple Mash Unit 1.3 Pictograms Unit 1.2 Grouping and Sorting		Unit 1.4 Lego Builders Unit 1.5 Maze Explorers Unit 1.6 Animated Stories		Unit 1.4 Coding Unit 1.8 Spreadsheets Unit 1.9 Technology outside school	
WILLOW **Cycle A**	Unit 2.2 Online Safety Unit 2.1 Coding		Unit 2.3 Spreadsheets Unit 2.4 Questioning Unit 2.5 Effective Searching		Unit 2.6 Creating Pictures Unit 3.1 Coding Unit 3.3 Spreadsheets Unit 2.8 Presenting Ideas	
WILLOW **Cycle B**	Unit 3.2 Online Safety Unit 3.8 Graphing Unit 3.4 Touch Typing		Unit 3.9 Presenting (PowerPoint) Unit 3.9 Presenting (Google slides) Unit 2.7 Making Music		Unit 3.5 Email Unit 3.6 Branching Databases Unit 3.6 Simulations	
OAK **Cycle A**	Unit 6.2 Online Safety Unit 4.3 Spreadsheets Unit 4.5 Logo		Unit 5.3 Spreadsheets Unit 5.5 Game Creator Unit 6.3 Spreadsheets		Unit 6.9 Spreadsheets (Excel) Unit 6.5 Text Adventures Unit 6.9 Spreadsheets (Google Slides)	
Oak **Cycle B**	Unit 5.2 Online Safety Unit 4.1 Coding Unit 4.7 Effective Searching		Unit 5.1 Coding Unit 5.7 Concept Maps Unit 6.1 Coding		Unit 4.8 Hardware investigators Unit 5.8 Word Processing Unit 6.8 Binary	
Oak **Cycle C**	Unit 4.2 Online Safety Unit 4.9 Making Music Unit 4.10 Artificial Intelligence		Unit 4.6 Animation Unit 5.6 3d Modelling Unit 6.6 Networks		Unit 4.4 Writing for Different Audiences Unit 5.4 Databases Unit 6.4 Blogging	
IMPACT (END GOALS)						
By the end of Key Stage One			**By the end of Key Stage Two**			

Pupils should be able to:	*Pupils should be able 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	- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - use sequence, selection, and repetition in programs; work with variables and various forms of input and output - use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs - understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration - use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information - use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

ASSESSMENT

Learning in Computing is seldom recorded on paper, but where it is so, it can be can be found in Computing folders. It may also be found - typically in the younger years – as a part of a class learning journey where adults might capture learning as scribed oral contributions from pupils, or photographs or other observations/commentary. Most of the captured learning will be located in children's saved work within their individual Purple Mash accounts.

Teachers assess learning in number of ways: by making observations of the children working during lessons, listening to their responses and ideas, looking at work that children have submitted online via Purple Mash as well as outcomes of quizzes or tests. Teachers assess the work against prescribed learning objectives linked to each lesson. All these assessment tools help teachers to reach a judgement as to how well the unit content has been learnt ie. do children know, remember and can do the things we have been teaching them? While it is crucial that the teacher then acts on the outcomes of this assessment so that it informs future learning, it also provides a snapshot summary identifying who is on track, who is not there yet and who is out in front.