Enquire Learning Trust - Computing Curriculum

Intent

At Enquire Learning Trust, we believe that it is vital for all our pupils to learn from and about Computing and Technology, so that they can understand the world around them. Through teaching our computing curriculum, we aim to equip our children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. It is our intention to enable children to find, explore, analyse, exchange and present information as well as having the skills to manipulate, develop and interpret different forms of technology in an ever-changing world.

In such a fast-moving curriculum, we are constantly looking at new ways of delivering relevant and exciting activities, while still delivering the fundamental skills needed for computing. Using technology safely and responsibly is a main priority and ensuring all pupils are able to use the internet and equipment appropriately is of paramount importance. We encourage our pupils to make links across the curriculum, the world and our local community, to reflect on their own experiences, which are designed in our curriculum, allowing horizontal and vertical links with previous year groups.

The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils 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.

Implementation

The Enquire Learning Trust bespoke computing curriculum offers a cross curricular scheme of work for Key Stage 1 and Key Stage 2 presently which is congruent with the National Curriculum. The curriculum looks at the progression needed for all pupils to develop and embed skills and knowledge within the strands of: digital literacy, E-Safety, coding, computing and app specific learning. The curriculum is designed to support teaching and learning and the acquisition of subject knowledge in all areas. Children will have the opportunity to explore and respond to key issues such as digital communication, cyber-bullying, online safety, security and social media.

Impact

- Children will be confident users of technology, able to use it to accomplish a wide variety of goals, both in school and at home.
- Children will have a secure and comprehensive knowledge of the implications of technology and digital systems which is important in our ever-evolving society.
- Children will be able to apply the British Values of democracy, tolerance, mutual respect, rule of law and liberty when using digital systems.
- se 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.

Aims

The 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

Key stage 1

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.

Key stage 2

Pupils should be taught to:

- 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.

Year group curriculum overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	E-safety: Using the internet safely. / Digital Literacy: Typing training.	Coding with Tynker JR / E-safety: the internet safely	Digital Literacy: Using a computer/device.	Digital Literacy: bug hunters Finding, saving, organising, sending, and presenting	Digital Literacy: Potty Painters - Digital Art and book design	Coding: Scratch Jnr - introduction and fundamentals
Year 2	E-safety: Staying safe on the internet – Jessie and Friends.	Coding: Scratch Jnr - introduction and fundamentals	Digital Literacy: Using search. Typing training.	Digital Literacy - using a computer. What is the Internet. / Digital Literacy: Introduction to photo editing.	Digital Literacy: taking and using photos / Digital Literacy: Presentations iOS	Coding: Scratch Jnr - introduction and fundamentals
Year 3 / **Topic related activities throughout the year.**	E-safety: Google Share with care	Digital Literacy: Research and develop a topic / Use school current school topic	E-safety: Google Be Internet Brave / Coding: Lightbot - Algorithms	Coding: Tynker - Animations	Coding: Tynker – Loops, debugging and events.	Coding: Tynker – If statements. HTML App Coding
Year 4	E-safety: Google Don't fall for fake	Digital Literacy: Networks / Digital Literacy: Email	Digital Literacy: Word processing PowerPoint / Digital Literacy: Photo Editing - Functions	Coding: Tynker - Algorithms	Digital Literacy: Stop motion animation	Coding: Tynker - Conditions, Functions and App design
Year 5 / **Topic related activities throughout the year.**	E-safety: Google Secure your secrets / Digital Literacy: Using shared cloud documents / Use school current school topic	Digital Literacy: Spreadsheets – Using Formula to automate mathematical problems.	E-safety: Cyberbullying / Coding: Lightbot – Algorithms Procedures. Loops and Debugging	Coding: Scratch – Simple Game creation	Digital Literacy: Animation through varied apps / Digital Literacy: Website creation. SharePoint / Use school current school topic	Coding: Microsoft Kodu – Advanced game creation
Year 6	E-safety: Google It's cool to be kind Interland's Kind Kingdom	Digital Literacy: 3D modelling using Sketchup. / Computer Networks: Search Algorithms	E-safety: Why is Social Media Free? Fake News in real life. / Digital Literacy: Making Videos	Coding: MIT App Inventor– Making an app about secondary schools to take home with us.	Coding: HTML Hacking and Python Coding / Digital Literacy: ChildNet video competition	Coding: Swift Playground – Conditional Code, While loops and Logic.

Assessment

This computing curriculum is also paired with an **assessment framework** to support teacher assessment, next steps planning and gap analysis. This framework provides information that can be used to help plan and assess pupil knowledge, understanding and skills in primary computing. It covers the main expectations for children at the end of each Key Stage. It sets out reasonable expectations of what children could achieve in each year at primary school, thus allowing teachers to track progress towards the statutory attainment targets.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

The progression statements derive from the Programme of Study for computing; they break down the original bullet points into shorter, more manageable chunks. Each statement is accompanied by 'What to look for' descriptors. These are designed to support planning for teaching and learning. The framework sets out a sequence that illustrates progression and that can be used to make judgements about pupil achievements. The framework is not intended to be definitive – it should be seen as indicative rather than prescriptive.

The framework is divided into three main strands and an app specific sub strand that covers the National Curriculum.

- **E-safety**
- **Computing and Digital Literacy** (App specific learning linked to digital literacy.)
- Coding

Assessments may be made during computing lessons or when pupils are using apps during topic learning that showcase their computing skills.
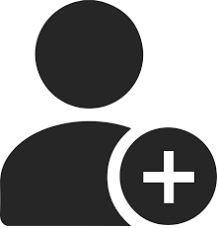
These statements are just **guidance and suggestions** to show the progression from Emerging towards, working towards, ARE and Greater Depth. Remember that pupils need to be confidently showing they understand how to use each key concept confidently and independently.

All of the assessment statements are found in the SIMS app which allows teachers to assess as they move through the curriculum. It enables real-time assessment and aids planning for next steps and quickly identifies which children are secure in a skill and which children need further support.

Software and Apps used

iPad Apps	Year 1		Year 2		Year 3		Year 4	Year 5	Year 6
iOS	Scratch Jr	Microsoft PowerPoint	Scratch Jr	Microsoft PowerPoint	Tynker	iMovie	Keynote	Keynote	Swift Playground
	Pages	Piccollage	Lightbot Hour	Snapseed	Keynote	iOS Camera	iMovie	Lightbot Hour	iMovie
	Tynker JR	Tayasui Sketches School	Piccollage App		Google Earth	Google Arts and Culture	Pages	.	Kahoot
	iOS Camera	Apple Photos	Photo Editor – Autodesk Sketchbook		Tayasui Sketches School		iMotion		MIT app inventor QR test app
	Adobe Spark						Photo Editor – Autodesk Sketchbook		
	Safari						Tynker		

Windows Software	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
	Chrome	Edge	Chrome	Edge	Chrome	Edge	Chrome	Edge	Chrome	Edge	Chrome	Edge
	Microsoft Word		Paint.net		Microsoft Word		Microsoft Word		Microsoft Word	Microsoft Excel	Microsoft Teams	
	Microsoft PowerPoint				Microsoft PowerPoint		Microsoft PowerPoint		Microsoft PowerPoint	Microsoft Publisher	Windows Photos	
	Paint (Windows)						Paint.net		Microsoft Teams		Mozilla X-Ray	
							Scratch desktop (or online)		Scratch desktop (or online)		Scratch desktop (or online)	
									Pivot Animator			
									Microsoft Kodu			

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online Services requiring account creation (Free)	Adobe Account for Spark		The Tynker app will need a classroom account setting up to unlock levels 4 -10 Creating Class accounts for the Tynker App	The Tynker app will need a classroom account setting up to unlock levels 4 -10 Creating Class accounts for the Tynker App	MIT app inventor. Will need pupils to copy their own save code to log in every week,	Swift playground will require an Apple ID. These can be made via Apple School Manager.
Online services needing Office 365 login (Pupil and teacher)			Tynker Online requires Office 365 account (login with the windows logo icon) Tynker Online also needs a class set up and a class code shared to the pupils.	Tynker Online requires Office 365 account (login with the windows logo icon) Tynker Online also needs a class set up and a class code shared to the pupils.	Microsoft SharePoint Microsoft Word online Microsoft Excel online Microsoft Publisher	SketchUp – Login with Microsoft account