



COMPUTING Whole School Curriculum – Ellel St. John’s C of E Primary School

EYFS

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. Below you can see how the skills taught across EYFS feed into national curriculum subjects.

This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for art within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for Computing.

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

Computing

Three and Four-Year-Olds	Personal, Social and Emotional Development	• Increasingly follow rules, understanding why they are important.
	Physical Development	• Match their developing physical skills to tasks and activities in the setting.
	Understanding the World	• Explore how things work.
Reception	Personal, Social and Emotional Development	• Show resilience and perseverance in the face of a challenge.
	Physical Development	• Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.
	Expressive Arts and Design	• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self • 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.
	Expressive Arts and Design	Creating with Materials • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

EYFS Areas of Study

Skill development (fine motor)

- Develop mouse control
- Click, drag and drop
- Begin to develop basic keyboard skills – some letter location (capitals), space bar, enter key...
- Use of interactive screen, Letter Join, iPads, Computer, Laptop, Torches, Talking pegs, Controllable Vehicles, Beebots etc
- Personal logins provided for Mathletics, Purple Mash and Spelling Shed.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Space bar	Click drag and drop (mouse control)	Keyboard Skills	Interactive Games	IPad Apps	Programs
KS1					
KS1 National Curriculum Pupils should be taught to: <ul style="list-style-type: none"> 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. 					
KS1 Implicit Skills These should be taught across a range of subjects, embedded into learning and across a range of digital devices. <ul style="list-style-type: none"> Use of touch-screen devices (swipe, drop and drag, pinch and enlarge etc) Use of mouse and keyboard Identification of key buttons (space, return, delete, number lock etc) Basic word and excel skills 					
YEAR 1					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Coding & Computational Thinking – Computer Skills Grouping and sorting Communication & Networks – Technology Outside School Various Programs	Word Processing Skills - Word	Internet & Email – Online Safety Various Programs Art & Design – Painting	Coding & Computational Thinking - Programming Toys (Lego Builders 2DIY)	Coding & Computational Thinking – Coding Scratch Junior	Writing & Presenting – Using & Applying If time: Internet & Email – Exploring Purple Mash Databases & Graphing – Pictograms 2Count (Maths) Art & Design – Animated Story Books 2Create A Story (Literacy)
* Recognise uses of IT outside the classroom (DL) Can I describe how digital technology is used outside school; in the home, at work and the community?	* Organise, store, retrieve & manipulate data (IT) * recognise that ICT can be used outside of the classroom Can I locate, open, use and save a file? Can I locate, open, use and close a program or app on a range of digital devices?	* Organise, store, retrieve & manipulate data (IT) * Using paint to create save and open files Can I locate, open, use and save a file? Can I locate, open, use and close a program or app on a range of digital devices?	* Understand the use of algorithms (CS) * Programming and algorithms using the Beebots Can I understand what algorithms are? Can I understand that algorithms follow precise and clear instructions?	* Understand the use of algorithms (CS) * Programming and algorithms Can I understand what algorithms are? Can I understand that algorithms follow precise and clear instructions?	
YEAR 2					
See KS1 Implicit Skills					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

<p>Using a camera – Children to take a picture of themselves using Purple Mash and add it to a document.</p> <p>Writing and Presenting - Presenting ideas Various Programs</p> <p>Basic Document Skills Using ICT safely, locate, open and save work.</p>	<p>Databases and Graphing – Questioning 2Question/2Investigate</p> <p>Internet & Email – Effective Searching Browser</p> <p>Recognise common uses of information technology beyond school.</p> <p>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about the content or contact on the internet or other online technologies – Online Safety and effective searching.</p>	<p>Coding & Computational thinking – Coding Scratch Junior, Kodu</p>	<p>Digital Media – Presenting Ideas</p> <p>Art & Design – Creating Pictures Paint</p>	<p>Spreadsheets – Spreadsheets 2Calculate</p>	<p>Music – Making Music 2Sequence</p>
<ul style="list-style-type: none"> Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) <p>Can I edit, improve and assess my presentations?</p>	<ul style="list-style-type: none"> Communicate online safely and respectfully (DL) <p>Can I use ICT to research, locate, open, use and save a file? Can I understand computer networks and describe examples like the world wide web?</p>	<ul style="list-style-type: none"> Write and test simple programs (CS) <p>Can I compose and write simple programs that accomplish specific goals?</p>	<ul style="list-style-type: none"> Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) <p>Can I complete any skills required using ICT safely?</p>	<ul style="list-style-type: none"> Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) 	<ul style="list-style-type: none"> Use a range of digital and wireless devices to create, organise and retrieve digital content (IT)

KS2

KS2

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.

KS2 Implicit Skills

These should be taught across a range of subjects, embedded into learning and across a range of digital devices.

- Manipulate and alter a range of elements into desktop publishing programs (jpg.png. sounds, digital photographs etc)
- Full use of key board short-cuts (i.e. CTRL C to copy/ CTRL V to paste etc)
- Fluency in a range of programs (word, excel, power-point etc)
- Folder and profile management
- Robust searching using a range of search engines (narrow search parameters, filtering by size, colour, type, specific terminology etc)
- Provenience of online repositories (i.e. can Wikipedia and other community-based 'factual' sites be trusted?)
- Using a range of information sources to confirm facts (avoiding lazy googling)
- Children given lots of opportunities to explore and discover technological tools and limitations of programming apps through play
- 'Netiquette' rules covering appropriate and inappropriate ways to comment on a range of social media
- Understanding of storing digital content including solid state (hard drives), school network, USB devices, memory cards and online storage (the cloud)

YEAR 3

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Internet & Email – Online Safety Various Programs</p> <p>Basic Document Skills Word, Publisher, Excel</p> <p>Graphing – taught in Maths Lessons</p>	<p>Writing & Presenting – Touch Typing 2Type</p>	<p>Databases and Graphing – Branching Databases 2Question</p>	<p>Spreadsheets – Spreadsheets 2Calculate</p>	<p>Coding and Computational thinking – Coding 2Code</p>	<p>Communications and Networks – Simulations 2Simulate 2Publish</p> <p>Internet & Email – Email 2Email 2Connect 2DIY</p>
<ul style="list-style-type: none"> • Use the internet and apps and access online resources safely and appropriately (DL) <p>Can I use the internet to undertake safe-searches?</p>	<ul style="list-style-type: none"> • Locate keys using 2 hands <p>Can I locate the keys on the keyboard quickly?</p>	<ul style="list-style-type: none"> • Collect and present data appropriately (IT) <p>Can I select and use a range of software to create and collate data?</p>	<ul style="list-style-type: none"> • Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) 	<ul style="list-style-type: none"> • Use and apply logical reasoning to real-life tasks. (CS) <p>Can I explain how some simple algorithms work by decomposing them into smaller parts? Can I detect and correct errors in simple algorithms?</p>	<ul style="list-style-type: none"> • Collect and present data appropriately (IT) • Can I select and use a variety of software on a range of digital platforms and devices to present data and information? Can I discuss and describe the programs and apps I like to use? • Collect and present data appropriately (IT) <p>Can I evaluate online and digital content in a discerning way?</p>

YEAR 4

See KS2 Implicit Skills

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
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<p>Internet & Email – Online Safety Various Programs</p> <p>Effective Searching</p> <p>Basic Document Skills Word, Publisher, Excel, PowerPoint</p>	<p>Recognise common uses of technology beyond school</p> <p>Computer Science - Logo</p>	<p>Spreadsheets – Spreadsheets 2Calculate</p>	<p>Writing for Different Audiences - 2Connect, planning and mapping tool</p>	<p>Coding & Computational thinking – Coding 2Code</p>	<p>Animation 2Question – branching databases</p>
<ul style="list-style-type: none"> Understand the workings and benefits of computer networks (DL) <p>We will explore how to keep safe online linked to PSHE as well as how to manage and store the work on the school's server. Children will learn to be responsible, competent, confident and creative users of information and communication technology</p> <p>Can I understand computer networks and describe examples like the world wide web? Can I describe the benefits computernetworks?</p>		<ul style="list-style-type: none"> Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) 		<ul style="list-style-type: none"> Design and write programs to achieve specific goals, including solving problems. (CS) <p>Can I create and develop increasing sophisticated presentations across a range of software?</p> <p>We shall use software apps to develop and improve our coding. Children will learn to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</p> <p>Can I compose and write simple programs that accomplish specificgoals? Can I create and develop increasing sophisticated presentations across a range of software?</p>	

YEAR 5

See KS2 Implicit Skills

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Internet & Email – Online Safety Various Programs</p> <p>Basic Document Skills Word, Publisher, Excel, PowerPoint Including Google Classroom</p> <p>Word processing (with Microsoft Word) (Optional Unit)</p>	<p>Coding & Computational thinking – Coding Scratch</p>	<p>Art & Design - 3D Modelling 2Design and Make 3D Modelling Purple Mash or Twinkl Sketch -Up</p>	<p>Databases and Graphing – Databases 2Question, 2Investigate Purple Mash / Twinkl</p>	<p>Coding & Computational thinking – Coding Scratch Spreadsheets – Spreadsheets 2Calculate</p>	<p>Spreadsheets – Spreadsheets 2Calculate Art & Design – Game Creator 2DIY 3D</p> <p>If time: Concept Maps Unit 5:7</p>
<ul style="list-style-type: none"> Understand the workings and benefits of computer 	<ul style="list-style-type: none"> Design and write programs to achieve specific goals, including solving problems. (CS) 		<ul style="list-style-type: none"> Collect and present data appropriately (IT) 	<ul style="list-style-type: none"> Design and write programs to achieve specific goals, including solving problems. (CS) 	<ul style="list-style-type: none"> Design Use a range of digital and write programs wireless devices to achieve specific goals, including

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<p>networks (DL)</p> <p>We will explore how to keep safe online linked to PSHE as well as how to manage and store the work on the school's sever. Children will learn to be responsible, competent, confident and creative users of information and communication technology</p> <p>Can I understand computer networks and describe examples like the world wide web? Can I describe the benefits computer networks?</p>	<p><u>Can I test, detect and correct errors in computing programs? Can I present my analysis appropriately to an audience?</u></p>		<p><u>Can I select and use a range of software to create and collate data</u></p>	<p>Can I test, detect and correct errors in computing programs? Can I present my analysis appropriately to an audience?</p> <p><u>Use a range of digital and wireless devices to create, organise and retrieve digital content (IT)</u></p> <p><u>Can I collect, analyse, evaluate and present data Information?</u></p> <p><u>Can I use presentation software for audiences by presenting to parents and peers in school?</u></p> <p>audience?</p>	<p><u>solving problems. (CS)</u></p> <p>Can I test, detect, create, organise and correct errors in computing programs? Can I present my analysis appropriately to an audience? retrieve digital content (IT)</p>
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YEAR 6

See KS2 Implicit Skills

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Coding & Computational thinking – Coding Scratch Rapid Router Code for Life</p>	<p>Spreadsheets – Spreadsheets 2Calculate</p>	<p>Internet & Email – Online Safety Various Programs</p> <p>Communication & Networks - Networks</p>	<p>Writing & Presenting – Blogging 2Blog</p>	<p>Coding & Computational thinking – Text Adventures 2Code 2Connect</p>	<p>Writing & Presenting – Quizzing 2Quiz 2DIY Text Toolkit 2Investigate</p>
<ul style="list-style-type: none"> Confidently use sequences, repetition, inputs, variables and outputs in programs (CS) <p>We will continue to refine our use of programming skills, including: use of sequences, repetition, inputs and variables through Scratch.</p> <p>Can I use confidently sequences and repetition in creating computing programs? Can I include inputs, variables and outputs in computer programs?</p>	<ul style="list-style-type: none"> Use a range of digital and wireless devices to create, organise and retrieve digital content (IT) <p><u>Can I collectCollect, analyse, evaluate and present data Information?</u></p> <p><u>Can I use Technology using presentation software for audiences by presenting to parents and peers in school?</u></p>	<ul style="list-style-type: none"> Understand the workings and benefits of computer networks (DL) <p>We will explore how to keep safe online linked to PSHE as well as how to manage and store the work on the school's sever. Children will learn to be responsible, competent, confident and creative users of information and communication technology.</p> <p>Can I describe how to keep my internet research safe and reliable? Can I understand computer networks and describe examples like the world wide web? Can I describe the benefits computernetworks?</p>	<ul style="list-style-type: none"> Continue to collect, analyse, evaluate and present data appropriately across an increasing number of programs (IT) 	<ul style="list-style-type: none"> Continue to collect, analyse, evaluate and present data appropriately across an increasing number of programs (IT) <p>Can I evaluate the impact of my data presentations? Can I select different presentationprograms and styles for different audiences?</p>	<ul style="list-style-type: none"> Continue to collect, analyse, evaluate and present data appropriately across an increasing number of programs (IT) <p>Collect, analyse, evaluate and present data Information Technology using presentation software for audiences by presenting to parents and peers in school.</p> <p>Can I evaluate the impact of my data presentations? Can I select different presentation programs and styles fordifferent audiences?</p>

