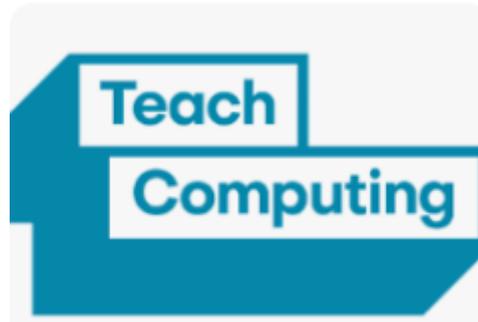# Beechwood Primary School

Explore, Discover, Achieve

Computing – Teach Computing / Project evolve

Breadth of Study

At Beechwood Primary School we follow Barefoot Computing in EYFS and NCCE Teach Computing scheme in years 1 to 6. The Barefoot Computing scheme focus on developing their computation thinking skills linked in with the Early Years Framework this will prepare children to move into the Teach Computing curriculum in year 1. This is a cleverly crafted scheme to ensure children leave Beechwood with all the skills they will need to succeed in computing in secondary school and beyond. We acknowledge that e-safety is paramount to safe guarding our children and therefore the entire school follow this to support the children's understanding of how to stay safe on line. As a school we are proactive in dealing with any on-line safely concerns and educating our children how to conduct themselves on-line.

	Autumn	Spring	Summer
EYFS	**Barefoot computing: Busy Bodies / Awesome Autumn** Developing computational thinking and understanding of the following concepts: • Algorithms • Decomposition • Debugging • Logical reasoning • Patterns • Abstraction **Online safety** • To tell an adult if they see something on a digital device that upsets them • To know not to give out any information about themselves • To know that not everything they see on the internet is true **Technology** Make marks on a digital device to communicate their ideas (maths games and paint apps on IWB)	**Barefoot Computing: Winter Warmers /Super Space/ Spring Time** Developing computational thinking and understanding of the following concepts: • Creating, • Pattern • Logical thinking • Algorithms • Decomposition • Collaborating • 'Tinkering' • Abstraction **Online safety** • To tell an adult if they see something on a digital device that upsets them • To know not to give out any information about themselves • To know that not everything they see on the internet is true **Technology** • Identify everyday technology: links to technology at home • Talk about how everyday technology is controlled • Use a package to produce a picture on screen. • Control a programmable toy • To understand the basic functions of an iPad (home button, lock button and volume buttons • Understand that 'output' is the result of a trigger (pressing the play button) – children take a photo and record each other saying what they want to be when they grow up.	**Technology** • Using iPads - To navigate their way around an iPad and operate several apps confidently • Control a programmable toy around a maze. • To visit the computer room and learn how to log-on to the computers **Boats ahoy / Summer Time** • Creating, • Pattern • Logical thinking • Algorithms • Decomposition • Debugging • Abstraction • Collaborating • Tinkering' **Technology** • To log-on • To write their name on a word document • To learn what a mouse is and to develop basic mouse skills such as moving and clicking • To use a simple online paint tool to create digital art

Year 1	Computing systems and networks – Technology around us 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. Evolve: copyright and ownership **Creating media – Digital painting** Use technology purposefully to create, organise, store, manipulate, and retrieve digital content Evolve: copyright and ownership	**Programming A – Moving a robot** NCCE 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 Recognise common uses of information technology beyond school **Data and information – Grouping data** **Use technology purposefully to create, organise, store, manipulate, and retrieve digital content** **Use technology safely and respectfully**	**Creating Media – digital writing** Use technology purposefully to create, organise, store, manipulate, and retrieve digital content Use technology safely and respectfully, keeping personal information private **Programming B – Programming animations** 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
Year 2	Computing systems and networks – Technology around us 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. Evolve: copyright and ownership **Creating media – Digital painting** Use technology purposefully to create, organise, store, manipulate, and retrieve digital content Evolve: copyright and ownership	**Creating media – Digital photography** 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 **Data and information - Pictograms** use technology purposefully to create, organise, store, manipulate and retrieve digital content 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	**Creating media – Digital music** Use technology purposefully to create, organise, store, manipulate, and retrieve digital content **Programming B – 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

Year 3	Computing systems and networks – Connecting computers	Programming A – Sequencing sounds	Creating Media – Desktop Publishing
	use sequence, selection, and repetition in programs; work with variables and various forms of input and output, understand computer networks including the internet, 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

Evolve: Online Relationships and Online Reputation

Creating media - Stop-frame animation

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

Evolve: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Online Bullying | 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
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

Data and information – Branching databases
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 | 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

Programming B – Events and actions in programs
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
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 |

Year 4	Networks – The internet	Programming A – Repetition in shapes	Creative media – photo editing
	-Understand computer networks including the internet	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	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 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 sequence, selection, and repetition in programs; work with variables and various forms of input and output	Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
	Use technology safely, respectfully, and responsibly	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	
		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	Programming B: Repetition in games
	Creating Media - Audio editing		Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
	-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 sequence, selection, and repetition in programs; work with variables and various forms of input and output
		Data and information – Data logging	Use logical reasoning to explain how some simple algorithms work, and to detect and correct errors in algorithms and programs
		Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	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
		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	

Year 5	Computing System & Networks – Systems and Searching	Data and information – flat file database	Programming B – selection in quizzes
	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 **Creating Media - Video Production** 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	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 **Programming A – selection in physical computing** 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	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 **Creating media – introduction to vector graphics** 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 6	Data and information – spreadsheets	Creating Media – 3D modelling	Programming B – sensing movement
	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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
	Programming A – Variables in games	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 sequence, selection, and repetition in programs; work with variables and various forms of input and output
	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behavior.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Project Evolve – Online relationships and online reputation	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 logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	**Creating media – webpage creation**	**Computing systems and networks – communication and collaboration**
	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	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	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 technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	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