	All Saints CE Primary School & Nursery	Foundation Subject Overview
	Subject: **Computing**	

HOW DOES THIS SUBJECT FIT IN?

EYFS Framework: Across all areas of learning.	KS1 National Curriculum:	KS2 National Curriculum:

Aims of Computing (from National Curriculum)

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse 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.

What this looks like in KS1:

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.

What this looks like in KS2:

- 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.

EYFS	
Areas of Learning and Development	**Activities and Resources**
Communication and Language	• Use a range of technology in role play areas • Walkie talkies • Microwave? Cash till? • Recording tins/cards/iPad • Listen to stories using technology • Follow instructions on an online game • Record conversations • Recite a rhyme and record it • Listen to music • Play phonics games
Physical Development	• Use keyboard and mouse • BBC Typing mat
Personal Social Emotional Development	• Take turns using equipment • Record voice on iPad
Literacy	• Use a range of recording devices-select the toy • Use Beebots and give verbal instructions • Digital cameras/iPad • Type name, use keyboard and mouse • Handles books and touch screen technology carefully Navigates apps and website on digital media using drop down menus and icons
Maths	• Positional language using Bee Bots • Which remote control car went the furthest? Which came first? • Beebots directed to a number/shape • Play maths games
Understanding of the World	• Use a range of technology in the outdoor area and in role play • Use simulation software- choose clothes for teddy in the correct weather, create a picture of a farm, town etc • Digital microscope to look at objects closely

	• Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support • Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets • Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images • Knows that information can be retrieved from digital devices and the internet • Plays with a range of materials to learn cause and effect, for example, makes a string puppet using dowels and string to suspend the puppet • Completes a simple program on electronic devices- Beebots and Daisy Dinosaur app on iPad • Uses ICT hardware to interact with age-appropriate computer software • Can create content such as a video recording, stories, and/or draw a picture on screen • Develops digital literacy skills by being able to access, understand and interact with a range of technologies Can use the internet with adult supervision to find and retrieve information of interest to them
Expressive Art and Design	• Painting on an iPad • Painting programmes-Paint • Take photographs on iPad

Year 1

National Curriculum Objectives:	**Units**
Information Technology Use technology purposefully to create, organise, store, manipulate and retrieve digital content	We are Celebrating **We are Painters** We are Collectors
Computer Science 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	We are treasure Hunters

Digital Literacy 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	Online Safety Scheme
Year 2	
National Curriculum Objectives:	**Units**
Information Technology Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Twinkl Word Processing Lessons 1-6** **We are zoologists (data handling)**
Computer Science 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	We are game Testers
Digital Literacy 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	Online Safety Scheme
Year 3	
National Curriculum Objectives:	**Units**
Information Technology Use search technologies effectively 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	We are Presenters
Computer Science	**We are Programmers** **We are Bug Fixers**

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 Appreciate how [search] results are selected and ranked	
Digital Literacy Understand the opportunities [networks] offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Online Safety Scheme

Year 4	
National Curriculum Objectives	**Units**
Information Technology Use search technologies effectively 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	We are Musicians
Computer Science Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	We are software Developers

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 Appreciate how [search] results are selected and ranked	**Barefoot Computing-Network Hunt** **Barefoot Computing- Modelling the Internet**
Digital Literacy Understand the opportunities [networks] offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Online Safety Scheme We are HTML Editors

Year 5	
National Curriculum Objectives	**Units**
Information Technology Use search technologies effectively 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	We are Architects
Computer Science Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	We are Cryptographers We are Game Developers

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 Appreciate how [search] results are selected and ranked	**Barefoot Computing -Ranking Search Activity**
Digital Literacy Understand the opportunities [networks] offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Online Safety Scheme We are Cryptographers We are bloggers We are Web Developers

Year 6	
National Curriculum Objectives	**Units**
Information Technology Use search technologies effectively 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	We are advertisers-video We are publishers- publisher
Computer Science Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	We are Simulators We are Game Developers- Rising Stars Year 5 KODU programming unit Twinkl

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 Appreciate how [search] results are selected and ranked	FLOWOL
Digital Literacy Understand the opportunities [networks] offer for communication and collaboration Be discerning in evaluating digital content Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Online Safety Scheme We are Network Technicians

Resources

Rising Stars Switched on to Computing Schemehttps://www.risingstars-uk.com/login?gclid=EAIaIQobChMIh8vwrPGX6wIViKztCh1mvg79EAAYASAAEgKhC_D_BwE

Barefoot Computing https://www.barefootcomputing.org/

BBC Computing KS1 https://www.bbc.co.uk/bitesize/subjects/zyhbwmn

BBC Computing KS2 https://www.bbc.co.uk/bitesize/subjects/zvnrq6f

Units in bold must be covered