The Willows Primary School
Explore - Dream - Discover

Computing Progression Planner

A computer user at The Willows can use technology creatively, safely and responsibly online and offline, knows what support is available when needed and can critically review information from the internet. Children can understand and apply the fundamental principles and concepts of computer science, including writing computer programs using logic, algorithms, sequencing and repetition, and can identify and fix problems as they arise.

		EXPLORE NC Objectives	DISCOVER Skills	Vocabulary	DREAM	Resources
Year 1	**Autumn**	▪ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ▪ use logical reasoning to predict the behaviour of simple programs	Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program.	**Digital** **Username** **Password** **Algorithm** **Program** **Debug** **Save**	**Chef** **(following recipe)**	**Unit 1.4 Lego Builders** (3 weeks)
	Spring	▪ 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 ▪ 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. ***E SAFETY DAY 11th FEBRUARY 2020***	Children can work out what is wrong with a simple algorithm when the steps are out of order.		**Software Designer**	**Unit 1.5 Maze Explorers** (3 weeks)

	Summer	▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content ▪ recognise common uses of information technology beyond school	Children are able to sort, collate, edit and store simple digital content.		**Author / Illustrator**	**Unit 1.6 Animated Story Books** (5 weeks)
Year 2	**Autumn**	▪ 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	Children know that an algorithm written for a computer is called a program.	**All vocab from above and:** **Code** **Input** **Search engine**	**Games Designer**	**Unit 1.7 Coding (from Y1 scheme of work)** (6 weeks)
	Spring	▪ 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. ***E SAFETY DAY 11th FEBRUARY 2020***	Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom.		**Researcher**	**Unit 2.5 Effective Searching** (3 weeks)
	Summer	▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content ▪ recognise common uses of information technology beyond school	Children make links between technology they see around them, coding and multimedia work they do in school.		**Artist**	**Unit 2.6 Creating Pictures** (3 weeks)

Year 3	**Autumn**	▪ 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	Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures.	**All vocab from above and:** **Input** **Output** **Variable** **Data** **Email** **CC**	**Software Designer**	**Year 3 Coding Crash Course** (6 weeks)
	Spring	▪ 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 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. ***E SAFETY DAY 11th FEBRUARY 2020***	Children can collect, analyse, evaluate and present data and information using a selection of software.		**Sports Statistician**	**Unit 3.8 Graphing** (3 weeks)
	Summer	▪ 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.	Children understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.		**Secretary** **Project Manager**	**Unit 3.5 Email** (6 weeks)

Year 4	**Autumn**	▪ 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	Children can trace code and use step-through methods to identify errors in code and make logical attempts to correct this.	**All vocab from above and:** **Execute** **Simulation** **Decomposition** **Abstraction** **Stop Motion** **Spreadsheet** **Cell Formatting**	**Software Designer**	**Unit 4.1 Coding** (6 weeks)
	Spring	▪ 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 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. ***E SAFETY DAY 11th FEBRUARY 2020***	Children create linked content using a range of software. Children share digital content within their community.		**Cartoon Animator**	**Unit 4.6 Animation** (3 weeks)
	Summer	▪ 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	Children make informed software choices when presenting information and data.		**Accountant**	**Year 4 Spreadsheets Crash Course** (6 weeks)

Year 5	**Autumn**	▪ 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	When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later.	**All vocab from above and:** **QR Code** **Blog** **Database** **Avatar** **Screenshot**	**Software Designer**	**Unit 5.1 Coding** (6 weeks)
	Spring	▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating 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. ***E SAFETY DAY 11th FEBRUARY 2020***	Children search with greater complexity for digital content when using a search engine.		**Business Analyst**	**Unit 5.4 Databases** (4 weeks)
	Summer	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ▪ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content.		**Games Designer**	**Unit 5.5 Game Creator** (5 weeks)

Year 6	**Autumn**	▪ 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	Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.	**Consolidation of all KS1 & KS2 vocab.**	**Software Desginer**	**Unit 6.1 Coding** (6 weeks)
	Spring	▪ 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 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. ***E SAFETY DAY 11th FEBRUARY 2020***	Children make clear connections to the audience when designing and creating digital content.		**Financial Analyst**	**Unit 6.3 Spreadsheets** (5 weeks)
	Summer	▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ▪ 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	Children design and create their own blogs to become a content creator on the internet.		**Online zine editor**	**Unit 6.5 Text Adventures** (5 weeks)