Stoke By Nayland Cof E Primary School

EYFS/KS1 Computing 2 Year Knowledge Cycle

Cycle 1				
	Purpose	**Respect**	**Communication**	**Key Vocabulary**
Computing Systems and networks **Technology Around Us**	Explain technology as something that helps us Locate examples of technology in the classroom explain how these technology examples help us Explore how things work.	develop their understanding of technology and how it can help them in their everyday lives. They will start to become familiar with the different components of a computer by developing their keyboard and mouse skills. Learners will also consider how to use technology responsibly. 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 Sensible amount of screen time	name the main parts of a computer switch on and log into a computer use a mouse to click and drag use a mouse to open a program click and drag to make objects on a screen use a mouse to create a picture Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	Mouse Click Log on Technology
Digital Painting **Easy Painting**	understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings, while gaining inspiration from a range of artists' work. The unit concludes with learners considering their preferences when painting with and without the use of digital devices. Remember rules without needing an adult to remind them	choose appropriate shapes make appropriate colour choices create a picture in the style of an artist explain that pictures can be made in lots of different ways spot the differences between painting on a computer and on paper say whether I prefer painting using a computer or using paper Show resilience and perseverance in the face of a challenge	make marks on a screen and explain which tools I used draw lines on a screen and explain which tools I used use the paint tools to draw a picture Match their developing physical skills to tasks and activities in the setting. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.	Mouse, tools Colour Click Create Copy
Grouping Data **Matching and Grouping Data**	Labelling, grouping, and searching are important aspects of data and information. Searching is a common operation in many applications, and requires an understanding that to search data, it must have labels. This unit of work focuses on assigning data (images) with different labels in order to	describe objects using labels match objects to groups identify the label for a group of objects group objects in more than one way count how many objects share a property Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	count objects group objects count a group of objects Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.	Labelling Grouping Counting Selecting

	demonstrate how computers are able to group and present data. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.			
Moving robots **Beebots**	understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Learners will use given commands in different orders to investigate how the order affects the outcome. They will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them. Remember rules without needing an adult to remind them	follow instructions given by someone else choose a series of words that can be acted out as a sequence give clear instructions use the same instructions to create different algorithms use an algorithm to program a sequence on a floor robot show the difference in outcomes between two sequences that consist of the same instructions Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	follow a sequence predict the outcome of a sequence compare my prediction to the program outcome explain what my algorithm should achieve create an algorithm to meet my goal use my algorithm to create a program Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.	Algorithm Create Predict Sequence Instruction debugg
Digital Writing **Using the keyboard**	develop their understanding of the various aspects of using a computer to create and manipulate text. Learners will become more familiar with using a keyboard and mouse to enter and remove text. Learners will also consider how to change the look of their text, and will be able to justify their reasoning in making these changes. Finally, learners will consider the differences between using a computer to create text, and writing text on paper. They will be able to explain which method they prefer and explain their reasoning for choosing this. Explore, use and refine a variety of artistic effects to express their ideas and feelings.	To use a computer to write open a word processor recognise keys on a keyboard enter text into a computer use letter, number, and space keys use backspace to remove text Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Explore how things work.	select a word by double-clicking select all of the text by clicking and dragging change the font say what tool I used to change the text decide if my changes have improved my writing use 'undo' to remove changes Show resilience and perseverance in the face of a challenge. Know and talk about the different factors that support their overall health and wellbeing: - sensible amounts of 'screen time'.	Undo Text Type Highlight Double click Tool Backspace
Animations **Stories**	on screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify and create programs. Learners are also introduced to	find blocks which have numbers change the value say what happens when I change a value use sprites which match my design add programming blocks based on my algorithm test the programs I have created	show that a project can include more than one sprite delete a sprite add blocks to each of my sprites	Command Move Sequence Compare Join Start block

	the early stages of program design through the introduction of algorithms. 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 Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Explore, use and refine a variety of artistic effects to express their ideas and feelings.	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	
Cycle 2				
	Purpose	**Respect**	**Communication**	**Key Vocabulary**
Computational Thinking 1 – Barefoot **Computing in the world**				
Digital Photography **Simple 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 Be confident to try new activities and show independence, resilience and perseverance in the face of challenge	recognise what devices can be used to take photographs talk about how to take a photograph explain what I did to capture a digital photo Show resilience and perseverance in the face of a challenge	identify what is wrong with a photograph discuss how to take a good photograph improve a photograph by retaking it explore the effect that light has on a photo experiment with different light sources explain why a picture may be unclear Explain the reasons for rules, know right from wrong and try to behave accordingly	Capture Photo Identify Tool Light source landscape
Pictograms **Grouping**	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	use a computer program to present information in different ways share what I have found out using a computer give simple examples of why information should not be shared Show resilience and perseverance in the face of a challenge	use a computer program to present information in different ways share what I have found out using a computer Explore how things work.	Safety Share Information Personal Private

Coding Algorithms **Beebots**	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 Develop their small motor skills so that they can use a range of tools competently, safely and confidently	● Task — what is needed ● Design — what it should do ● Code — how it is done ● Running the code — what it does Show resilience and perseverance in the face of a challenge	test and debug each part of the program plan algorithms for different parts of a task put together the different parts of my program explain what my algorithm should achieve create an algorithm to meet my goal use my algorithm to create a program Explore how things work.	Program Debug Algorithm Task Test Route
Making Music **Chrome Music Lab**	create a rhythm which represents an animal I've chosen create my animal's rhythm on a computer add a sequence of notes to my rhythm	identify simple differences in pieces of music describe music using adjectives say what I do and don't like about a piece of music	create and refine musical patterns. Show resilience and perseverance in the face of a challenge	Create, emotion, pitch, pulse/beat, tempo, instrument, rhythm, notes
Quizzes 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	compare my project to my design improve my project by adding features debug my program discover that a sequence of commands has an 'outcome'. They will predict the outcomes of real-life scenarios and a range of small programs in ScratchJr. Learners will then match programs that produce the same outcome when run, and use a set of blocks to create programs that produce different outcomes when run Show resilience and perseverance in the face of a challenge	choose the images for my own design create an algorithm build sequences of blocks to match my design Explore how things work.	Scratch Jr Commands Outcome

	Develop their small motor skills so that they can use a range of tools competently, safely and confidently			