Year 1	Computer Science – Programming	Mrs Slater

ICT Skills

Moving a robot	Programming Animations
Introduction to floor robots. Look and talk about the buttons and their function. Use language to give directions to a human robot. Work with a partner to give and follow instructions. Program a floor robot to move forwards and backwards. Use the left and right turn commands along with forwards and backwards. Predict where given programs will move the robot to. Create a program and test it on the robot. Consider errors and debug. Plan a route and write an algorithm. Program the robot and test.	Be able to move a sprite using commands. Can join block together and use the START block to run programs. Can delete and add new sprites. Can select an appropriate background. Follow a given algorithm. Change the value of a block. Can create a project for a Space race. Test and debug.

Knowledge and Understanding

Develop an understanding of computer programming and know that algorithms are a set of clear, precise instructions. To be able to read a simple algorithm and predict what a program will do. Engage in program design and create algorithms with a purpose. Know the name of the buttons and their function. Understand that computers and devices need human input. Identify errors in the program and debug.	*Progression of previous learning, building knowledge and understanding of giving and following instructions.* Know that a sprite needs a Start block to run. Know where to locate sprites and backgrounds and how to delete unwanted items. Understand that an algorithm must be followed accurately to achieve a given result. Understand that using a blocks value will repeat the action several times. Can design a project from a given scenario and know what outcome they need to achieve. Able to discuss errors within the program and how to amend.

Non-negotiable Assessment

Understand the function of buttons on a robot. Act out and give direction instruction to others. Program a robot using forward and backwards. Identify left and right buttons. Input commands to move to a given square. Identify route from a given algorithm. Plan a program for a selected route.	Make sprites move. Change a background. Use 'start and end' blocks. Locate numbers on blocks. Change programs using fewer blocks.	Delete and add new sprites. Plan and design artwork for a project. Design an algorithm to control sprites. Test the program. Save and retrieve work.

National Curriculum Links

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.	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.

Key Vocabulary

Forwards, backwards, turn, clear, go, commands. Instructions, directions. Left, right, turn. Plan, algorithm, program. Route, plan.	Scratch Jr, Bee-Bot, command, sprite, compare, programming, programming area. Block, joining, command, START block, run, program, programming area, background, delete, reset, algorithm, predict. Effect, change, value, block. Instructions, delete. Background. Design.

Suggested Resources

Bee-Bots; Kodables; Purple Mash 2 Go	Scratch Jr.

Year 1	Using ICT – Creating Media	Mrs Slater

ICT Skills	
Digital Painting	Digital Writing
Using free hand tools in digital painting. Use the line and shape tool. Revisit fill and undo from previous lesson. Create a picture in the style of an artist. Create a picture in the style of an artist using shapes. Explain the different jobs of each tool and choose the appropriate tool to recreate the work of Wassily Kandinsky. Choose appropriate colours and brush sizes to create a picture using dots. Use the text tool to add name to the picture. Save work with an appropriate file name. Retrieve work.	Open a word processing program. Identifying and find keys to add text to a page. Add text, including numbers. Use space bar and backspace to remove text. Type capital letters. Identify and use bold, italic and underling. Select a word and drag it to another location. Change the font and colour of their text. Use and explain which tools they used to change their work. Use undo to remove unwanted changes.
Knowledge and understanding	
Understand that different tools do different jobs. To know that there are specific tools which will give the expected outcome. To be able to choose the correct tool for the expected outcome. Know which tools are helpful and explain why. To be able to consider their preferences when painting with and without the use of a computer. Know where to save and retrieve work.	To be able to locate letters and numbers on a keyboard. Know where to locate specific tools on the tool bar. Manipulate text by making cosmetic changes and justify reasons for making the changes. Know how to save and retrieve content.
Non-negotiable Assessment	
Explore the tools in a paint program. Use a modelled tool to create a painting in the style of Piet Mondrian. Use shapes to create a Matisse style painting. Select tools to create a Kandinsky style painting. Demonstrate an independent use of brush size, style, colour and undo. Compare computer paint or paper painting. Discuss likes and dislikes.	Recognise and use keys on a keyboard. Use Space and Enter keys. Use backspace. Use Cap Lock. Use bold, italic and underline. Demonstrate an understanding of the keys they have learnt. Know how to make changes to a piece of writing on the computer. Save and retrieve work.
National Curriculum Links	
Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. Use technology safely and respectfully, keeping personal information private.
Key Vocabulary	
Paint program, tool, paintbrush, erase, fill, undo. Piet Mondrain, primary colours, shape tools, line tool, fill tool, undo tool. Henri Matisse, shape tool, fill tool. Wassily Kandinsky, tools, feelings, colour, brush style. Georges Seurat, pointillism, brush size. Pictures, painting, computers, like, prefer, dislike.	Word processor, keyboard, keys, letters, type. Numbers, space, backspace, text cursor. Capital letters, toolbar, bold, italic, underline. Mouse, select, font. Undo, redo, font, format.
Suggested Resources	
Purple Mash – 2 paint, 2 write	2 publish; J2 paint, J2 write.

Year 1	Digital Literacy	Mrs Slater

ICT Skills	
Technology around us	Grouping data
Classify what is and is not technology within school. Children can explain how technology helps us in different ways. Name the main parts of a computer and learn how to log in. Use a mouse to click and drag. Use a mouse to open a program and create a picture on a painting program. Begin to use the keyboard by typing their name. Save work to a file. Open a file that has been previously created. Use text buttons and learn how to delete letters. Create rules for using technology responsibly and safely.	Place objects into different groups and understand that an object can fit into more than one group. Count a small number of objects before grouping. Count a group of objects. Identify the properties of objects and begin to understand that these can be used to group them. Find objects with similar properties. Classify objects based on their properties. Group objects and explain the reasoning behind this. Choose how they want to group different objects by properties. Compare and describe the groups. Record the number of objects in each group. Decide how to group objects to answer questions. Record findings and share with peers.
Knowledge and Understanding	
To begin to understand what technology is and how to interact with it in school. Develop basic skills needed to log into a computer and access programs and apps.	Introduce the concept of labelling and grouping objects according to their properties. Develop an understanding that objects can be given labels. Know that computers are not intelligent, they require input from humans.
Non-negotiable Assessment	
Identify technology. Use a mouse to click and drag. Double click to open a program/browser. Save a file. Open a saved file. Log in to a computer. Know the rules for using a computer safely.	Match objects to a predefined group and understand that objects can belong to more than one group. Identify the property of an object. Group objects with the same properties. Describe groups of objects and record amount. Group objects to answer a question.
National Curriculum Links	
Recognise common uses of information technology beyond school. 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 technology purposefully to create, organise, store, manipulate, and retrieve digital content. Use technology safely and respectfully.
Key Vocabulary	
Technology. Computer, mouse, keyboard, screen. Double click, typing.	Object, label, group, search, image.
Suggested Resources	
Purple Mash – 2paint, J2paint	2Count, J2pictogram