Year 2	Computer Science – Programming	Mrs Slater

ICT Skills	
Robot algorithms (Floor robot and online robot)	Programming Quizzes
Can follow instructions given by others and choose a series of words that can be combined into a sequence. Create different algorithms from the same instructions. Program the sequence on a floor robot and show the different outcomes between two sequences. Follow and predict the outcome of a sequence. Use sequences to guide the sprite through the maze. Design an algorithm to move a robot around a maze, identifying start and finish point. This algorithm will be decomposed into small steps in order to achieve the given results.	Recall how to use Scratch Jr. Identify blocks of movement. Be able to predict the outcome of a block of code. Can change the outcome by changing attributes. Can use a predefined design to practice programming with 'tap and go to' blocks. Create a program using their own design including: question, artwork and algorithm. Compare projects and improve by adding features. Debug any errors
Knowledge and Understanding	
Show an understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Compare the difference between the floor robot and a computer program robot. Know that an algorithm has to have the correct sequence in order to achieve its outcome. Understand the term 'algorithm'. Understand that by decomposing code into smaller parts, makes it easier to program.	Progresses knowledge of sequences and logical reasoning. Know that the start of a sequence needs an event block. Can say how a program will run by looking at the algorithm. Know which block to use to switch scenes. Can choose artwork and sprites suitable to the project they have designed. Identify bugs and know how to correct them. .
Non-Negotiable Assessment	
Create different algorithms from the same instructions. Program a sequence on a floor robot. Design an algorithm and implement as code. Debug an algorithm.	Run a program independently. Predict the outcome of a program. Use 'start on tap' and 'go to page' blocks. Design and program a quiz. Save work. Evaluate the project and debug.
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	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
Key Vocabulary	
Debugging, algorithm, sequence, program, directions, prediction, route, decomposition,	Sprite, sequence, command, program, run, start, actions, project, modify, change, build, outcome, predict, blocks
Suggested Resources	
Bee-bots, Purple Mash 2 Go, Kodables	Scratch Jr

Year 2	Using ICT – Creating Media	Mrs Slater

ICT Skills	
Digital Photography	Making Music
Use a digital device to take photographs. Explore and explain why a photograph looks better in landscape or portrait. Discuss and identify what is wrong with a photograph. Retake with improvements. Investigate why good lighting is important. Learn about autofocus. Use image editing software and use the Adjust tools within the program. Recognise that photographs can be changed. Identify real/edited photographs.	Identify feelings when listening to two different pieces of music. Explore rhythm and create patterns. Follow the sequence using real instruments. Experiment with sound using a computer. Explore pitch and create a piece of music. Create a musical pattern using a computer program. Look at how the tempo can be changed. Create a rhythm that represents the movement of a chosen animal. Add a melody to go with it. Review and improve the music from previous lesson. Share with friends
Knowledge and understanding	
Know that digital devices can capture images. Understand how to hold a device steady and position the subject in the best light. Understand that permission must be granted before taking photographs of people. Know that the photographs of people should not be edited and published without their permission. Understand that some images may be fake.	Create a word bank of how different pieces of music makes them feel and explain why. To be able to distinguish and talk about pitch and tempo and how it changes the sound. Listen to their creation and know if the music follows a pattern. Think about which application is the best one to use to create a feeling. Consider how a piece of music will make the listener feel. Understand that music has a rhythm and a pattern. Know that the work I create belongs to me.
Non-Negotiable Assessment	
Capture photographs in portrait and landscape. Identify poor photograph and suggest how they have gone wrong. Find out where the best light levels are. Apply a colour effect. Identify real images v changed images. Know what images are ok to share.	Say how music makes you feel. Develop the concept of patterns in music. Create a piece of music on a given theme. Save music using a digital device. Evaluate and improve their work.
National Curriculum Links	
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.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Key Vocabulary	
Device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light, focus, background, editing, filter, framing.	Music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, notes, instrument, edit.
Suggested Resources	
iPad, cameras, photo editing software.	Chrome music lab. Selection of instruments

Year 2	Digital Literacy – Computer systems and networks; Data and information	Mrs Slater

ICT Skills	
Information Technology around us	Pictograms
Be able to identify devices that are computers and consider how IT can help at school and beyond. Can find examples of IT and recognise where examples can be found. Look at how devices can work together in a shop. Sort activities into whether they use IT or not. Follow the rules surrounding the use of IT equipment. Make safe choices when using IT.	Count objects and record them in a tally chart. Use a tally chart to count objects and enter the data onto a pictogram. Create a tally chart and compare totals. Make a manual pictogram. Be able to identify attributes which are used to group objects. Use a computer to present information in different ways. Understand the importance of thinking carefully before sharing data and that it is acceptable to say 'no' to sharing.
Knowledge and understanding	
To be able to identify the purpose of IT and explain that it is used in many workplaces. Talk about and show how devices can be used together. Know the rules to follow and and how rules can help the learners stay safe when using IT. Know when something does not feel or look right, to tell a trusted adult.	Understand the importance of organising data for counting and comparing. Know the advantage of entering data onto computer pictogram in comparison to a manual pictogram. Tally objects according to its attribute. Use the results of a pictogram to answer simple questions with mathematical language. Know that there are different ways to present data. Know how to create a pictogram and draw conclusions from it. Give examples of why some information should not be shared. Know who to speak to if something happens that make them uncomfortable.
Non-Negotiable Assessment	
Identify the purpose of IT. Recognise where examples of IT can be found. Demonstrate how IT devices work together. Know different rules to follow when using IT. Know that choices can be made when using IT.	Use a tally chart to create a pictogram. Enter data and answer questions. Distinguish true and false statements. Identify attribute used to group objects. Create a customised pictogram. Understand the importance of thinking carefully before sharing data. Understand it is OK to say no to sharing data.
National Curriculum Links	
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.	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.
Key Vocabulary	
Technology. Computer, mouse, keyboard, screen. Double click, typing.	
Suggested Resources	
PurpleMash–Technology around us	2Count, J2pictogram