Fairisle Infant and Nursery School Medium Term Plan

'We have the right to learn" Article 28

'We have the right to be safe' Article 19

'We have the right to be the best we can be' Article 29

Subject: Computing Computer Science	Year Group: Year 1 Autumn 1	Unit: Routes and Trails
Learning Objective: - Understand what algorithms are, how they are implemented as programs on digital devices, and that programmes 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 Success Criteria: - I can give instructions to my friend and follow their instructions	Key Skills and reference to 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	Resources: **Bee Bots** **Bee Bot mats** **Pictures of places in school** **Cards with places printed on it.**
	Hook and content: New Year R children don't know their way around the school. We are going to give them instruction of how to get to different places in our school. Step 1- Teacher to be a robot and children to give teacher instructions on how to get from the smartboard to the classroom door. Teacher follow instructions exactly to refine children's understanding of the need for accurate unambiguous instructions.	Cross-curricular links: Geography: Routes and trails (around the school) Literacy: Verbalising and writing instructions.

- I can describe what happens when I press buttons on a robot - I can press the buttons in the correct order to make my robot do what I want - I can describe what actions I will need to do to make something happen, and begin to use the word algorithm - I can begin to predict what will happen for a short sequence of instructions - I can begin to use software/apps to create movement and patterns on a screen - I can use the word debug when I correct mistakes	Sep 2 – Children to give each other instructions to get to somewhere on the playground (or in hall if raining). Children to give accurate algorithms and partner to follow instruction accurately. Step 3 – Using clear bee bot mats and place in different places in our school – children to programme the bee bot to get to different places in the school. Work as a group. Children can programme instructions as they go for this session (it didn't go far enough so make it go forward a bit more) Step 4 – Continue as previous session but encourage children to input their algorithms as one continuous programs. Children may want to have white boards to record instructions as they go so that they can debug them accordingly. Step 5 Look at a set of algorithms together and talk about what they think is going to happen. Where will the floor robot go? Give children some programs to look at together. Children to look at school map (bee bot map) and predict where bee bot well end up (write prediction on post it note). Programme the bee bot and see if they were correct. Step 6 - Give them a set of instructions that get there robot to one part of the school map to another part. Are these algorithms correct? Can you debug them! Children to highlight the part that needs de-bugging and correct it!	S&L links: Give well-structured descriptions and explanations ESafety: Revise lock it, block it show it, tell it at the beginning of each session.