

Fairisle Infant and Nursery School Medium Term Plan



'We have the right to learn'

'We have the right to be safe'

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

<p>Subject: Computing Coding</p>	<p>Year Group: Year 2 Autumn 2</p>	<p>Unit: Human Crane challenge</p>
<p>Learning Objective:</p> <ul style="list-style-type: none"> - 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 (algorithms). - Use logical reasoning to predict the behaviour of simple programs - Recognise common uses of information technology beyond school - To understand that programs execute by following precise and unambiguous instructions. 	<p>Key Skills and reference to National Curriculum:</p> <ul style="list-style-type: none"> • 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 	<p>Resources:</p> <p>Resources available from T:\Subjects\Computing\2014 Computing Curriculum\New school planning\Year 2\Summer 2</p> <ul style="list-style-type: none"> - Action Cards (Print 3 lots of sheet and cut them out) - Three coloured blocks of any type - Three bowls - Challenge cards (Print and cut out) iPod touch or camera to record their work
	<p>Hook and content:</p> <p>Children will create a human crane that follows a set of instructions.</p>	<p>Cross-curricular links:</p> <p>S&L links:</p> <ul style="list-style-type: none"> • Use relevant strategies to build their vocabulary.

<ul style="list-style-type: none"> - To use logical reasoning to predict the behaviour of simple programs (algorithms) <p>Success Criteria:</p> <ul style="list-style-type: none"> - I can create and test crane algorithms that move blocks from one bowl to another. - 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 put a set of instructions in the correct order to make my crane do what I want. - I can use the word debug when I correct mistakes. 	<p>Step 1- Pupils work in pairs or with an adult helper. Teacher explains that the automatic crane has broken down and that the children need to program it to move building blocks as shown on the challenge cards. They program it by arranging the action cards in order. The crane hand always starts above the left hand bowl. Challenge cards are ranked in order of complexity 1-12. Pupils sets up the bowls and block(s) as shown on the challenge card.</p> <p>Step 2- One pupil creates algorithm of instructions to solve the challenge by arranging the cards in the order that will complete the challenge card task. Other pupil then checks to see if their instructions are correct by being the robot arm.</p> <p>Step 3- Pupils then take a picture of their algorithm to record their work or ask teacher to view it before moving on to the next challenge and swapping roles.</p> <p>Step 4- Pupils are allowed to use the block(s) to help them create their algorithms.</p> <p>Extension Pupils can be challenged to create the algorithm using the least amount of cards. You could also introduce the idea of loops by using string and pegs. The string would go around the cards that you wished to repeat and the number of pegs would indicate how many times to loop. Pupils could then go back over the challenges to see when they could use loops. Pupils could also make challenges for each other involving more blocks and or more bowls.</p>	<ul style="list-style-type: none"> • Articulate, justify answers arguments and opinions. • Participate in discussions. <p>SMSC: ESafety: Revise lock it, block it show it, tell it at the beginning of each session.</p>
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