Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Subject: Computing – Programming: Moving a Robot   KS1 Year 1
 	
 NC/PoS:
    • 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

Prior Learning (what pupils already know and can do)   How to follow and give simple instructions, how to move in different directions.

End Points (what pupils MUST know and remember)
    • To explain what a given command will do
    • To understand directional language
    • To combine commands to make a sequence
    • To plan a simple program using debugging where applicable ▢   To find more than one solution to a problem

Key Vocabulary   Buttons, directions: forward, backward, left, right, floor robot, program, clear, debug,
Recommended Resources: https://tinyurl.com/KS1-MovingARobot   Unplugged activities provide possible opportunities for the children to record.
Session 1: Buttons   Using the recommended resource, children should be able to answer these questions: What is a floor robot? What buttons do floor robots have? What happens when a button is pressed? What button starts a program? How do we clear the last program?   Vocabulary: floor robot, buttons, program, clear, command, direction
Session 2: Directions   Using the recommended resource, children should be able to answer these questions: How can we make the floor robot move forwards and backwards? How can we increase the amount of movement? What happens when the left and right buttons are used? Why do we need to vary the buttons used?   Unplugged activity – children to be given an image of the BeeBot controls to annotate to state what they do.   Vocabulary: floor robot, buttons, program, clear, command, direction, forward, backward, left, right, movement
Session 3: Creating programs   Using the recommended resource, children should be able to answer these questions: Can we use multiple commands to create complex programs? Can we predict what will happen? How can debugging support our program development? How can we get the floor robot from point A to B using a floor map?

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Unplugged activity – children to be given an example program and predict what will happen

Vocabulary: floor robot, buttons, program, clear, command, direction, forward, backward, left, right, movement, complex, predict, debug, floor map

Session 4: Writing programs

Using the recommended resource, children should be able to answer these questions:

Can we write down the program used to get the floor robot from point A to B? Can we implement the program? Can we debug and edit the program accordingly? Is there more than one route than can be taken? Which route would be best?

Unplugged activity – children to write down their final program and explain what happened with the BeeBot

Vocabulary: floor robot, buttons, program, clear, command, direction, forward, backward, left, right, movement, complex, predict, debug, floor map, route

Future learning this content supports:
The content of this unit will support other units on understanding of giving and following instructions, and programming.