Holly Park School Year 1	Computing Learning Organiser Beebot programming	Computer Science

Prior Knowledge

I can use a range of control toys and devices.
I can follow simple instructions to control a digital device
I can talk about the instructions that I have given to the Beebot/ toy.
I can talk about the success or failure of an action and begin to debug.

NC Learning Objectives

To understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.
To create and debug simple programs
To use logical reasoning to predict the behaviour of simple programs.

Vocabulary

Algorithm – a step-by-step method for solving a problem
Instruction – detailed information about how something should be done.
Order – the arrangement of things in relation to each other
Debug – find and remove errors or mistakes on computers
Program – to direct the behaviour of a computer
Clockwise – in the same direction as the way in which the hands of a clock move round.
Anticlockwise – in the opposite direction to the way in which the hands of a clock move round.
Sequence – a particular order in which related things follow each other.

Offline resources

Barefoot Computing
Beebots Tinkering Activity (Programming, Tinkering)
Pupils tinker with Bee-Bots to find out what they do and how to program them.

1,2,3 programming with Beebots

What will I know by the end of this unit?

Sequencing: A set of steps carried out in order.
-I know that people interact with computers
-I understand that computers need precise instructions and that programs run by following precise instructions
-I can run check and change programs
-I understand what an algorithm is and begin to develop computational thinking by following instructions to move around a course and create a series of instructions for others to follow.
-I can explore outcomes when individual buttons are pressed on Beebots and combine these together to draw simple shapes or follow a route
-I can represent algorithms using symbols
-I begin to develop care and precision to avoid errors with algorithms
-I understand that programs run by following precise instructions and that computers have no intelligence and will do nothing unless a program is run
-I can begin to understand what an algorithm is and can represent it using symbols.

Sequence

Sequence of Beebot activities

- Can you give instructions to a friend?

- Can you program a Beebot to go to your partner and then back again?

- Can you program your Beebot to draw a square. What buttons did you press?

- Can you program the Beebot to make a specific phonic digraph or grapheme?

- Can you control the Beebot travel to part of the room and come back again.

- Can you navigate a Beebot around the map of the UK (link to geography). Can you get to Scotland? Etc.

- Can you navigate a Beebot around a maze you have built with construction equipment?

Barefoot Computing Resources- www.barefootcomputing.org

-Beebots Tinkering Activity (Programming, Tinkering)

Pupils tinker with Bee-Bots to find out what they do and how to program them.

-Crazy Character algorithms (Logical sequencing, Decomposition, Debugging, Algorithms)

Pupils will create a set of instructions on how to draw a crazy character and so start to understand what algorithms are.

-1,2,3 programming with beebots

Optional next step

Once children have become very accustomed with using the Beebot throughout the year in the continuous provision, in the summer term the children can begin to use the Beebot app on the ipads.

Assessment opportunity

Children to program a Beebot around a maze or map and attempt to draw the algorithm. To draw the algorithm, children draw the symbols on the buttons they pressed on the Beebot.

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