



HAWTHORN PARK COMMUNITY PRIMARY SCHOOL

Where Care and Learning Count

Headteacher: Mrs Jeni Houghton



Computing Knowledge Organiser

Area: Programming

Year Group: 4

By the end of this unit pupils will be able to:

- Create and edit procedures by typing logo commands including pen up, pen down and changing the trail of the turtle.
- Solve open-ended problems with a floor robot and Logo including creating simple regular polygons, making sounds and planning movements such as a dance
- Experience a variety of resources (e.g. Scratch) to extend knowledge and understanding of programming.
- Create an algorithm and a program that will use a simple selection command for a game.
- Sequence pre-written lines of programming into order
- Begin to correct errors (debug) as they program devices and actions on screen.
- Talk about algorithms planned by others and identify any problems and the expected outcome.
- Use an algorithm to sequence more complex programming into order.
- Link the use of algorithms to solve problems to work in Maths, Science and DT.

Prior Learning:

- instructions as algorithms, instructional language, understanding 'debug' as correcting mistakes in programming.

Key Facts and vocabulary

What is an algorithm?

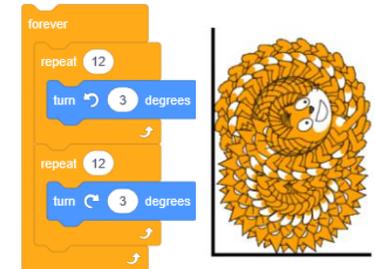
- An algorithm must follow a logical sequence.
- A sequence is a series of logical steps that must be carried out in a specific order.

What is a variable?

- A **variable** is something that can be changed.
- In **computer** programming we use **variables** to store information that might change and can be used later in our program.
- Variables could be used to store the score in a game, the number of cars in a car park or the cost of items on a till.
- If you were programming a computer game, you could make a variable called '**score**'. This would store information about the number of points you have won during a game.
- A supermarket till uses variables to store information about all the items you buy. As more items are scanned the variable's total would **increase**.
- Automated barriers in a car park use variables to count cars in and out. These can then be used to see if there is any space to let more cars in.

What is a loop?

- A **loop** is a sequence of instructions that is continually **repeated** until a certain condition is reached.
- In Scratch, "Forever" blocks are used to create loops.



<https://youtu.be/xPIGz7WPYH4>
Variables in Playlab