Eversley Primary School– Knowledge Organiser

Computing	Programming A – Repetition in Shapes	Year 4	Spring 1

Key Knowledge

To identify that accuracy in programming is important	• I can program a computer by typing commands • I can explain the effect of changing a value of a command • I can create a code snippet for a given purpose
To create a program in a text-based language	• I can use a template to draw what I want my program to do • I can write an algorithm to produce a given outcome • I can test my algorithm in a text-based language
To explain what 'repeat' means	• I can identify repetition in everyday tasks • I can identify patterns in a sequence • I can use a count-controlled loop to produce a given outcome
To modify a count-controlled loop to produce a given outcome	• I can identify the effect of changing the number of times a task is repeated • I can predict the outcome of a program containing a count-controlled loop • I can choose which values to change in a loop
To decompose a task into small steps	• I can identify 'chunks' of actions in the real world • I can use a procedure in a program • I can explain that a computer can repeatedly call a procedure
To create a program that uses count-controlled loops to produce a given outcome	• I can design a program that includes count-controlled loops • I can make use of my design to write a program • I can develop my program by debugging it

Possible experiences

- Listen to a piece of music and track how many times a certain piece of the song or instrumental is repeated.
- Try creating your own program that uses a count-controlled loop, by using Turtle Playground. turtleacademy.com/playground
- Have a go at writing your own code to write different letters of the alphabet/numbers. Get someone in your family to follow the code with a piece of paper.

Statutory requirements

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Key vocabulary

Spelling	Definition
Command	**Similar to an instruction**, a command is given by the user to the computer, telling it to do something.
Logo	Logo is an easy and simple **programming language**. It is used to teach children how to program a computer.
Algorithm	An algorithm is a **list of rules** to follow in order to solve a problem. Algorithms need to have their steps in the right order.
Count Controlled Loop	A count controlled loop is created by **repeating an instruction** a set number of times.
Decomposition	Breaking down code into parts to make it easier to work with.
Debug	When we debug, we find the problem in a code and fix it by removing or changing it.

The Logo interface