Medium Term Planning
Subject: Computing

Term and Year:	Autumn 2 – Year 6
Teacher:	Mrs Appleby
Subject:	Programming
Vocabulary that will be taught:	algorithm, code (computer), computer command, decompose, import, loop, nested loop, random numbers, remix, script libraries, variable

National Curriculum Objectives:

~ 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

Computing Skills that will be taught and assessed:

~ using Python programming language

~ decomposing a program into an algorithm

~ writing increasingly complex algorithms for a purpose

~ using and adapting nested loops

	Focus of each lesson 'Can I...' Statement(s)	Activities/Key points
Lesson 1	To tinker ~ I can predict what I think something new will do ~ I can explore something independently ~ I can explain what I found	Children are introduced to text-based programming and will explore the capabilities and commands of the programme Logo, creating basic designs.
Lesson 2	To understand nested loops ~ I can explain what a loop is ~ I know why we use loops ~ I can explain how a nested loop works	Children will continue to use Logo and explore how having loops-within-loops changes the look of their designs.

Lesson 3	To understand basic Python commands ~ I can decompose a picture ~ I can 'remix' a project by tinkering ~ I can choose Python commands for a purpose	Children will develop their computational thinking skills of decomposition to help them to alter a picture using text-based programming language, Python.
Lesson 4	To use loops when programming ~ I can explain what a loop is ~ I can suggest an appropriate place to use a loop ~ I can use the syntax for a loop	Children will use loops in Python to create their own pieces of Islamic art, tinkering with different values to create different shapes.
Lesson 5	To understand the use of random numbers ~ I can identify the need for random numbers ~ I can decompose a program ~ I can write an algorithm	Children will learn about the use of random numbers, decomposing a program and writing an algorithm to create original pieces of art work.