Respect, Believe, Achieve

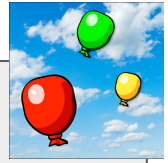
Year 4
Variables and Loops
Computer Science

Key Words	
algorithm	A list of step by step instructions. (e.g. pick up toothbrush, open mouth, brush teeth)
variable	A number that the computer can change while a program runs (e.g. time, score)
constant	A number which stays the same while a program runs (e.g. height of character).
repetition	When you get a computer to follow the same instructions again.
loop	A computer command to begin the instructions again.
logical thinking	Using information you already have, to discover how things will work.

What do I already know?

- I can break a problem up into smaller parts
- I can put programming commands into a sequence to achieve a specific outcome
- I keep testing my programme and can recognise when I need to debug it
- I can use repeat commands I can set up conditional events with 'if statements'
- I can set up a sequence or animation such as making shapes or a dancing character
- I can describe the algorithm that I will need for a simple task
- I can detect a problem in an algorithm that may result in unsuccessful programming

Our Learning Steps



1. Introducing Variables

I will use a variable to keep score in different games. I will learn to use negative numbers, and set variables rather than changing them.

2. Building a Game

I will design my own game which uses the score as a variable.

3. Debugging

I will fix code from the games I have explored.

4. Introducing Repetition

I will animate using loop events, loops within loops and forever events.

5. Using Repetition and Variables

I will use the variable of time to make events occur .

6. Assessment: Balloon Show

I can use loops to simplify a programme.
I can use logical thinking to solve an open ended problem by breaking it up into smaller parts.
I know that I need to keep testing my programme while I am putting it together.
I can spot a mistake in a program and debug it.