



## Linked learning theme: Year 4 – Summer 2

### Computing – Programming B – Repetition in games

#### Prior Learning

- This unit will build upon children's work of repetition in coding from Programming A in year 4. The children's work in the Events and Actions Programs in Year 3 will also allow them to integrate sequencing into their games within the unit and begin to apply skills for a purpose.

#### Core knowledge

Learners will explore the concept of repetition in programming using the Scratch environment. The unit begins with a Scratch activity similar to that carried out in Logo in Programming unit A, where learners can discover similarities between two environments. Learners look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition. Their final project is to design and create a game which uses repetition, applying stages of programming design throughout.

#### Key skills

- Adapt code to create repeating patterns and loops.
- Determine the suitability of infinite and count-controlled loops for a program.
- Use event codes to trigger loops.
- Identify actions based on the code.
- Use code suitably to achieve a purpose in a game.
- Debug algorithms and code to fix a program.

#### Vocabulary

Count-controlled loop  
Repetition  
Infinite loop  
Event  
Debug  
Algorithm

#### Learning Outcomes

- To develop the use of count-controlled loops in a different programming environment.
- To explain that in programming there are infinite loops and count-controlled loops.
- To develop a design that includes two or more loops which run at the same time.
- To modify an infinite loop in a given program.
- To design a project that includes repetition.
- To create a project that includes repetition.