Programming A—Variables in games

Construction

THE WOODLAND FEDERATION
WINKLEIGH Primary School

Prior Knowledge

Year 3—You learnt to sequence sounds in Scratch. You learnt to use a selection of motion, sound and event blocks to create your own program.

Year 4—You learnt how to program shapes using repetition and loops using Logo, a text-based programming language.

Year 5—You learnt to use physical computing to explore the concept of selection in programming.

Future Knowledge

KS3—You will learn to use two or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions.

GER 0 - 1 MEX

SWE 3 - 1 KOR

My Component Knowledge:

Lesson 1: Introducing variables

Lesson 2: Variables in programming

Lesson 3: Improving a game

Lesson 4: Becoming a games designer

Lesson 5: Design to code

Lesson 6: Improving and sharing

My Composite Knowledge:

To know that games are created from coding and that variables can be used to show scoring in these games.
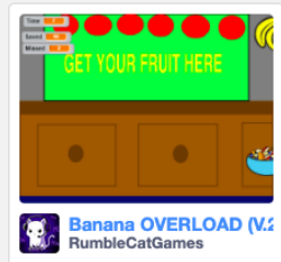
My Powerful Knowledge:

This unit explores the concept of variables in programming through games in Scratch. First, learners find out what variables are and relate them to real-world examples of values that can be set and changed. Then they use variables to create a simulation of a scoreboard. In Lessons which follow the Use-Modify-Create model, learners experiment with variables in an existing project, then modify them, before they create their own project. Learners will apply their knowledge of variables and design to improve their games in Scratch.

Fruit Catcher v 1.7
Fruit Catcher
schoolbythesea

Fruit Catcher
JuniLearning

Fruit Catcher
Penguin_Eee

Banana OVERLOAD (V.2
RumbleCatGames

```
when [flag] clicked
set score ▼ to 0
go to x: 20 y: 150
point in direction 45
repeat until < touching color (red) ? >
    move 15 steps
    if on edge, bounce
    if < touching Paddle ▼ ? > then
        turn ↻ pick random 160 to 200 degrees
        move 15 steps
```

What is a variable?

How can code be used to control a variable?

What is debugging?

Change (Score A ▼) by (1)

Name   Value