

Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Subject: Computing – Programming: Variables in Games

Year: UKS2 – Year B – Autumn

NC/PoS:

- 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

Prior Learning (what pupils already know and can do)

Understanding giving and following instructions, using floor robots to create and debug programs, creating a sequence of commands to follow a routed, using Scratch Jnr to create a program using blocks, how to add music and link to motion, how to use the pen tool within programmes, how to use repeat and create count-controlled loops, how to create a programme in a text-based language, how to use infinite loops to create an animation

End Points (what pupils MUST know and remember)

- To define a 'variable' as something that is changeable
- To explain why a variable is used in a program
- To choose how to improve a game by using variables
- To design, create and evaluate a project that builds on a given example

Key Vocabulary

Variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, test, debug, improve, evaluate, share

Session 1: Variables

What is a variable and how are they used within an algorithm? Why do variables need to be named? What values can be used within a variable? Can we create variables to use within a scratch project?

Vocabulary: Variable, change, name, value, name, set,

Session 2: Improving a Game

How can we apply the concept of a variable to enhance a pre-existing game? Can we predict the outcome of changing a 'change score' block? How can we test our predictions? Can variables be used elsewhere in a program and still give the same outcome?

Vocabulary: Variable, set, change, design, event

Session 3:

Can we design a game using variables? How can we ensure the design/sprite/objects match the game? What blocks will be needed within the algorithm? How can we test the variable? Could an additional variable be added to enhance the experience? Can our peers support our evaluation process? Can the feedback be used to support debugging so that improvements can be made?

Vocabulary: Design, algorithm, code, program, project, test, debug, improve, evaluate, share

Future learning this content supports:

The content of this unit will support other units on designing and creating code for a specific purpose?