Seamer and Irton CP School – Computing (H.Griffiths)

Topic – An Introduction to Quizzes	Year 2 Summer 2	Strand – Programming

Prior Learning

In **Year 1 – Programming Animations – Summer 1** Learners were introduced to on-screen programming through ScratchJr. Learners explored the way a project looked by investigating sprites and backgrounds. They used programming blocks to use, modify, and create programs. Learners were also introduced to the early stages of program design through the introduction of algorithms.

Key Knowledge I need to understand

I need to understand that:

Programming is when we make a set of instructions for computers to follow.

Scratch jr. is a program that we can use to code programs using a series of command blocks.

This can be used to design quizzes.

We use algorithms (a set of instructions to perform a task) to program the sprite to do different things.

Learners begin to understand that sequences of commands have an outcome and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr,and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make improvements to their programming projects.

How I will show what I have learned

To explain that a sequence of commands has a start	- I can identify the start of a sequence - I can identify that a program needs to be started - I can show how to run my program
To explain that a sequence of commands has an outcome	- I can predict the outcome of a sequence of commands - I can match two sequences with the same outcome - I can change the outcome of a sequence of commands
To create a program using a given design	- I can work out the actions of a sprite in an algorithm - I can decide which blocks to use to meet the design - I can build the sequences of blocks I need
To change a given design	- I can choose backgrounds for the design - I can choose characters for the design - I can create a program based on the new design
To create a program using my own design	- I can choose the images for my own design - I can create an algorithm - I can build sequences of blocks to match my design
To decide how my project can be improved	- I can compare my project to my design - I can improve my project by adding features - I can debug

What vocabulary I need to know

The following Glossary may be useful
https://icompute-uk.com/ewExternalFiles/iCompute-Glossary.pdf

What's next

In – Year 3 – Spring 1 – Sequence in Music, learners will explore the concept of sequencing in programming through Scratch. It begins with an introduction to the programming environment, which will be new to most learners. They will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences. The final project is to make a representation of a piano. The unit is paced to focus on all aspects of sequences, and make sure that knowledge is built in a structured manner. Learners also apply stages of program design through this unit.

Please access resources at Teach Computing Curriculum - https://teachcomputing.org/curriculum

Assessment

National Curriculum Computing links

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs

Assessment

Formative assessment opportunities will be provided throughout each lesson. The learning objective and success criteria will be introduced at the beginning of each lesson and then reviewed at the end. Learners should assess how well they feel they have met the learning objective using the teacher's chosen method.

Summative assessment completed on ScholarPack on teacher judgement alongside evidence from each session

Teacher Subject Knowledge

This unit focuses on developing learners' understanding of computer programming. It highlights that algorithms are a set of clear, precise, and ordered instructions, and that a computer program is the implementation of an algorithm on a digital device. The unit also introduces reading 'code' to predict what a program will do. Learners will engage in aspects of program design, including outlining the project task and creating algorithms.

When programming, there are four levels that can help describe a project, known as Levels of abstraction. Research suggests that this structure can support learners in understanding how to create a program and how it works:

Task – what is needed

Design – what it should do

Code – how it is done

Running the code – what it does

Spending time at the 'task' and 'design' levels before engaging in code-writing aids learners in assessing the achievability of their programs and reduces a learner's cognitive load during programming.