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

Topic – Introduction to Animation	Year 1 Summer 2	Strand – Programming

Prior Learning	Key Knowledge I need to understand
In **Year 1 - Programming A – Moving a robot – Spring 1**, learners will have explored using individual commands, both with other learners and as part of a computer program. They will have identified what each floor robot command does and use that knowledge to start predicting the outcome of programs. Learners were also introduced to the early stages of program design through the introduction of algorithms.	**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 in order to code our own stories and animations. It involves sprites (characters on the screen).** **-We use algorithms (a set of instructions to perform a task) to program the sprite to do different things.** Learners will be introduced to on-screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Learners will also be introduced to the early stages of program design through the introduction of algorithms.

How I will show what I have learned

To choose a command for a given purpose	- I can find which commands move a sprite - I can use commands to move a sprite - I can compare different programming tools
To show that a series of commands can be joined together	- I can use more than one block by joining them together - I can use a **Start** block in a program - I can run my program
To identify the effect of changing a value	- I can find blocks which have numbers - I can change the value - I can say what happens when I change a value
To explain that each sprite has its own instructions	- I can show that a project can include more than one sprite - I can delete a sprite - I can add blocks to each of my sprites
To design the parts of a project	- I can choose appropriate artwork for my project - I can decide how each sprite will move - I can create an algorithm for each sprite
To use my algorithm to create a program	- I can use sprites which match my design - I can add programming blocks based on my algorithm - I can test the programs I have created

What vocabulary I need to know	What's next
ScratchJr, Bee-Bot, command, sprite, compare, programming, programming area, block, joining, **Start** block, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, appropriate, design The following Glossary may be useful https://icompute-uk.com/ewExternalFiles/iCompute-Glossary.pdf	In **Year 2 – An Introduction to quizzes – Summer 2**, 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.

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 are introduced in the slide deck 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

All the lessons in this unit require access to ScratchJr.
ScratchJr App is available on our tablets (iPad), and installed as desktop apps on all laptops and in the Computing Suite

Algorithms are a set of clear, precise, and ordered instructions, and a computer program is the implementation of an algorithm on a digital device. The unit 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.