

	<p>Year group: Year 2</p>	<p>Area/topic: Programming quizzes - Scratch Jr (Summer 1)</p>
	<p>(objectives from NC/ELG/Development matters)</p> <p>Pupils to be taught:</p> <ul style="list-style-type: none"> • 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. • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 	

Prior learning	Future learning
<ul style="list-style-type: none"> • Children are first introduced to Scratch Jr during Summer 2 in Year 1. During this unit, the children learn how to create a set of instructions using the icons on Scratch. They then use the icons to create a short animation. The children will therefore build on this in Year 2 to create quizzes using Scratch. 	

What pupils need to know or do to be secure

Key knowledge and skills

- Children to be taught that creating a program follows the following structure: Task - what is needed, Design - what it should do, Code - how it is done, Running the code - what it does.
- To recap knowledge of Scratch Jr - remembering that all algorithms must start with the green flag and end with a red block.
- To be able to predict the outcome of a sequence of commands.
- To understand how to change the outcome of a sequence of commands.
- To understand what the blocks on Sprite Jr do.
- To be able to decide which blocks to use to meet the design brief and then build the sequence needed using the blocks.
- To be able to create an algorithm.
- To use and modify designs to create their own quiz questions in ScratchJr.
- To compare the project to the design and then consider ways of improving the project by adding features.
- To understand how to debug the program.

Possible evidence

- Children to use real life scenarios to understand that sequences of commands have an outcome.
- Children will have the opportunity to use and modify designs to create their own quiz questions in ScratchJr.
- Children to evaluate their work verbally and then act on these evaluations to make improvements to their programming projects.

Key vocabulary

- **Algorithm** - A set of ordered steps that can be followed by a human or computer to achieve a task.
- **Instructions** - A direction or order.
- **Sequence** - A basic algorithm. A set of logical steps carried out in order.
- **Outcome** - What happens at the end.
- **Command** - A single instruction that can be used in a program to control a computer.
- **Program** - A set of ordered commands that can be ran by a computer to complete a task.
- **Blocks** - Blocks of code that can be dragged onto their project in order to create a script.

- **Script** - A set of instructions (algorithm).
- **Sprite** - A character on Scratch Jr.
- **Modify** - Change or edit.
- **Debug** - Finding and correcting errors in a program.
- **Code** - The commands that a computer can run.

Common misconceptions

- Children may not realise that there can be mistakes within an algorithm - Mistakes should be encouraged as these provide vital opportunities for children to debug and modify their algorithms.

Books linking to this area

- Ava in Code Land - Jess Hitchman

Memorable first hand experiences

- Children to be able to use an iPad to code their own quizzes and then test each other's algorithms.

Opportunities for communication

- Children will be given the opportunity to discuss what outcomes the algorithm is creating and why (e.g. what blocks have been used to cause these outcomes).
- Children will be given the opportunity to evaluate their work verbally discussing what went well and what could be edited to make improvements.

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Reasonable adjustments for pupils with SEND

<p><i>Communication and Interaction</i></p> <ul style="list-style-type: none">• <i>Make sure the children are using the correct equipment for them.</i>• <i>Consider headphones to support the child to hear.</i>• <i>Have someone available to read any text that is on the screen.</i>	<p><i>Cognition and Learning</i></p> <ul style="list-style-type: none">• <i>Consider adjusting the brightness and colour so they can see the screen more easily.</i>• <i>Have someone available to read any text that is on the screen.</i>• <i>Shorter steps given at appropriate time.</i>• <i>Simpler logins.</i>• <i>Adult to support with logging in.</i>• <i>Print out which the different functions and tools on.</i>• <i>Step by step guide printed out for them to refer to.</i>
<p><i>Social, Emotional and Mental health</i></p> <ul style="list-style-type: none">• <i>Timer so they understand when they will need to log off.</i>• <i>Clear boundaries.</i>• <i>Online safety instructions made clear.</i>	<p><i>Sensory and Physical</i></p> <ul style="list-style-type: none">• <i>Larger text/equipment.</i>• <i>Print offs instead of screen time.</i>• <i>Appropriate desk, chair, keyboard and mouse.</i>