Dereham Church Infant and Nursery School- Computing

	Year group: Year 2	Area/topic: Programming quizzes – Scratch Jr (Spring 2)
	(objectives from NC/ELG/Development matters) Pupils to be taught: • 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
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.	

<table>
<tr><th colspan="2">What pupils need to know or do to be secure</th></tr>
<tr><th>Key knowledge and skills</th><th>Possible evidence</th></tr>
<tr><td>

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.

</td><td rowspan="2">

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.

</td></tr>
<tr><th>Key vocabulary</th></tr>
<tr><td>

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.

</td></tr>
</table>

- **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	Books linking to this area
• 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.	• Ava in Code Land – Jess Hitchman
Memorable first-hand experiences	**Opportunities for communication**
• Children to be able to use an iPad to code their own quizzes and then test each other's algorithms.	• 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.

DCINS Reasonable adjustments for pupils with SEND

Communication and Interaction	Cognition and Learning
• Make sure the children are using the correct equipment for them. • Consider headphones to support the child to hear. • Have someone available to read any text that is on the screen.	• Consider adjusting the brightness and colour so they can see the screen more easily. • Have someone available to read any text that is on the screen. • Shorter steps given at appropriate time. • Simpler logins. • Adult to support with logging in. • Print out which the different functions and tools on. • Step by step guide printed out for them to refer to.
Social, Emotional and Mental health	**Sensory and Physical**
• Timer so they understand when they will need to log off. • Clear boundaries. • Online safety instructions made clear.	• Larger text/equipment. • Print offs instead of screen time. • Appropriate desk, chair, keyboard and mouse.