

READ FIRST

YEAR 4: REPETITION IN GAMES

CURRICULUM MILESTONES

I can create a program that uses loops to achieve a particular outcome

I can recognise that some programs can be run at the same time (concurrency)

I can explain the outcome of changes to code

WHY THIS? WHY NOW? CURRICULUM SEQUENCING AND ASSESSMENT

Ideally, this unit should be taught after the year 4 unit Repetition in Shapes. This unit takes the principles of loops and applies them to the more complicated environment of game-programming.

This unit will prepare children sufficiently to consider more advanced work with Scratch, and also lays groundwork for understanding the block-based programming of Microbits.

Children can be questioned individually to see if they understand the three curriculum milestones for this unit (above).

Scratch general guidance:

[Scratch](#) is the online coding environment that is most prevalent as children learn further coding routines and structures in Key Stage 2. While children will be keen to experiment and explore the different coding aspects within Scratch, they should be encouraged to proceed with caution, adopting a process whereby they add / change slowly and test as they go – it is, otherwise, rather easy to make a jumbled mess that no-one can decipher without starting again!

Scratch does have a [teacher account mode](#) whereby student accounts can be set up and managed. However, there are limitations to this system currently and it doesn't give the control that teachers would like. With those limitations in mind, you may find that it's easier for students to simply click the *Create* button and begin projects without creating Scratch accounts. More info in this [Scratch fundamentals one-pager](#).

You will notice hyperlinks for pre-made Scratch projects are shown within the PowerPoint slides – having a way to ping links over to children, such as with a learning platform like Google Classroom or Teams, can be a time-saving way to send links to children's devices.

EASY ACCESS TIPS: LESSONS 1 AND 2

These sessions may work well together and you will find that you can move rapidly through the materials.

EASY ACCESS TIPS: LESSON 3

It's important that children take time to look at the code they have made and understand how it is functioning. Inquisitive but focussed!

EASY ACCESS TIPS: LESSON 4

This lesson allows children to consolidate their understanding – don't worry too much if the finished result isn't perfect.

EASY ACCESS TIPS: LESSONS 5 AND 6

These two lessons go together well – planning in lesson 5 and then completing in lesson 6. Don't overdo the planning stage since learners are bound to adjust matters as they assemble their game. Again, ask children to be focussed and careful with the adjustments they make to their code.