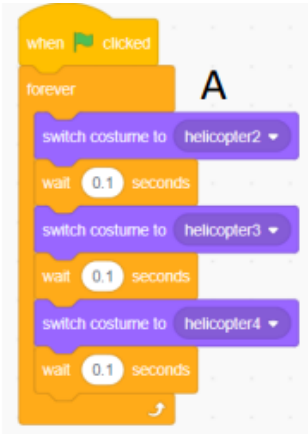
Learning journey	Computing – computer science	Helicopter game	Year 4	

Building on prior learning	Theme overview	Preparing for future learning	Vocabulary
In the previous unit, the children learnt what a count-controlled loops in coded blocks were. They explored how to modify the 'repeat' block that was used in a pre-created game and made small changes that effected the speed and colour of the outputs.	In this unit, the children will continue to use count-controlled loops. They will be introduced to continuous loops (is also known as forever loops) and will learn the difference between the two types. The children will apply their understanding of both loops and use them to create their own code, inspired by the helicopter game.	In year 5, the children will be introduced to the 'if' selection block. Simple sequences and loops will be used in these blocks to explore how condition blocks can be used to create a quiz.	Count controlled loops Forever loops/continuous loop Control blocks 'Wait' Sprite Multiple Code Programming Input Output

NC coverage and HWJS skills development	Knowledge organisers
National curriculum coverage Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs **HWJS skills development** Recognise that one algorithm may be better by reading and creating count-controlled and forever loops. Spot patterns in algorithm or code and continue the patterns. Add small non critical adaptations	I know the difference between a count-controlled loop and a continuous loop. I can make small modifications to sprites to change the speed they are travelling. I can plan an effective game and create forever loops for multiple sprites. I can de-bug with a partner effectively.



Connections / deepening understanding How is the understanding of this area deepened in other areas of the curriculum? What inks are there in the other subjets in the curriculum?	**RADE** Are the rights of the child relevant in this area of study - do they get referred to in the work?	**Assessment** By the end of the unit the children will be able to … Details of the objectives that they will have covered within this unit of work
English – problem solving and communication with a partner. PSHE – SMSC values and critical thinking skills.	Collaboration Teamwork Critical thinking skills	**The pupils will be assessed through** ongoing assessment through teacher observation and pieces of work produced throughout the sessions. **By the end of the unit the children will be able** to use forever loops in code for multiple sprites.

Assessment recording for the unit - checking the level of pitch of the work			
Key skill(s)/ knowledge to be assessed by the end of the unit	**Lower attaining**	**Middle attaining**	**Higher attaining**
I can use a forever loop in a piece of written code	I know the difference between a forever loop and a count-controlled loop.	I can use a forever loop to continuously complete an action.	I can use a forever loop in code and use subsequent blocks to stop the loop after an action.
I know how to programme multiple sprites to create a simple game.	I can modify a simple code for two sprites in a simple game.	I can write a code for two or more sprites in a simple game, using modelled examples.	I can write and modify my own written code for multiple sprites that work at the same time for the simple game.