YEAR 4 COMPUTING / KNOWLEDGE ORGANISER

Repetition in Games

In Scratch, loops control repeated actions. Different sprites can run their own scripts at the same time.

Key vocabulary

Scratch	A programming environment that uses blocks.
Sprite	A character or object in a Scratch project.
Costume	One of a sprite's appearances.
Event	Something that starts a script, such as clicking the green flag.
Script	A set of blocks joined together to give instructions.
Count-controlled loop	A repeat block that runs a set number of times.
Infinite loop	A forever block that repeats actions until the script is stopped.
Algorithm	A set of steps for completing a task.

What you need to know

- Use repeat when you know how many times an action should happen. Use forever for an action that should keep happening while the game runs.
- Two sprites can start scripts from the same event and run separate loops at the same time.
- Read existing code and predict what it does. Change one block or value and test the effect.
- Plan what each sprite should do. Build your game, debug it and check whether it works as planned.

Worked example

repeat (4) → next costume | forever → next costume

With a short wait after each change, one sprite changes costume four times and the other keeps animating.

Quick recall

1. Which loop would keep a background character moving?
2. How could you test whether an edited loop behaves as planned?

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