Coding 1—Micro:bit Games

Key knowledge

Processors follow code one step at a time.

Blocks are sections of code that can be dragged and dropped to make a sequenced program.

There are different types of block: instructions, loops, decisions.

Code can be written on https://makecode.microbit.org.

Variables can hold specific information that can be called on later in the code.

Variables can be called several times in a program.

Randomisers create a random value to be used in the code. These can be used in games like dice and rock, paper, scissors.

The transfer of data from the website to the Micro:bit is done over a wired connection.

Pink blocks: input

Red blocks: variables

Green blocks: loops

Blue blocks: function blocks to start and end the program

Extensions can be added to get additional specialised blocks.

If Else logic blocks can be used to perform functions depending on whether an expression is true.

Key Skills

Build code by making small changes and test with the online simulator.

Test code after making changes, using a simulator, and adjust it if it doesn't work.

Change the start-up icon with each download so you know it is new code.

Download code from "https://makecode.microbit.org/" to the PC.

Transfer code to the Micro:bit by connecting it to the PC using a USB cable and dragging the code onto the Micro:bit using folders.

Tidy away all equipment to the correct place so that others can find it. Report any damage or wear and tear of equipment.
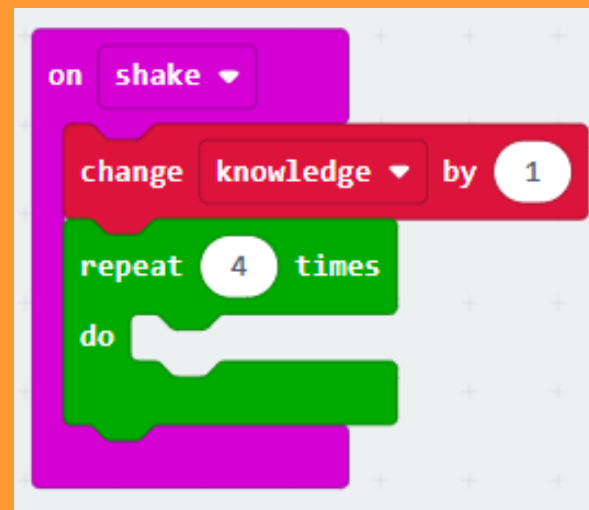
Key vocabulary

Coding language—a formal language comprising a set of instructions that produce various kinds of output.

Block based coding— a drag-and-drop learning environment, where programmers use coding instruction "blocks" to construct code.

Processor—the electronic circuitry within a computer that executes instructions that make up a computer program.

Micro:bit—a pocket-sized computer that you can code, customise and control to bring your digital ideas, games and apps to life.

Transfer—moving data.

Variables—names used to hold one or more values. Instead of repeating these values in multiple places in your code, the **variable** holds the results of a calculation, database call, results of a database query, or other value.

Robot—a machine—especially one programmable by a computer— capable of carrying out a complex series of actions automatically.

Movement—changing place or position.

Sequences—the following of one thing after another.

Input— to provide or give a command or signal to the computer.