



# Selection in Physical Computing

## Year 5 Knowledge Organiser

### Know how to:

- Control a simple circuit connected to a computer. Write a program that includes count-controlled loops
- Explain that a loop can stop when a condition is met.
- Explain that a loop can be used to repeatedly check whether a condition has been met.
- Design a physical project that includes selection
- To create a program that controls a physical computing project

### Key questions:

How do I control a simple circuit connected to a computer?



What is the role of a loop in a program?

A count-controlled loop uses a number as a condition.

In a do...until loop, you can set your own condition.

How do I create a program that controls a physical computing object?

### Programming using an algorithm as a guide

Forever

Do the following if the button is pressed:

- Repeat 3 times:
  - Light the Sparkle green for 0.5s
  - Turn the Sparkle off for 0.5s
- Spin the motor forwards at half power
- Pause for 10s
- Spin the motor backwards at half power
- Pause for 10s
- Stop the motor
- Repeat 3 times:
  - Light the Sparkle red for 0.5s
  - Turn the Sparkle off for 0.5s

Key Vocabulary	
Word	Definition
<b>Loops</b>	Programmers often use loops in their programs that make a set of commands run several times
<b>Program</b>	A series of instructions that has an input and output.
<b>Input</b>	An instruction or action at the beginning of a system.
<b>Output</b>	The end result of an input in a computer system.
<b>Components</b>	Individual parts of a computer system.



