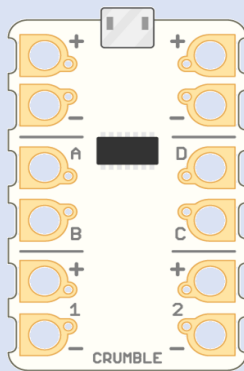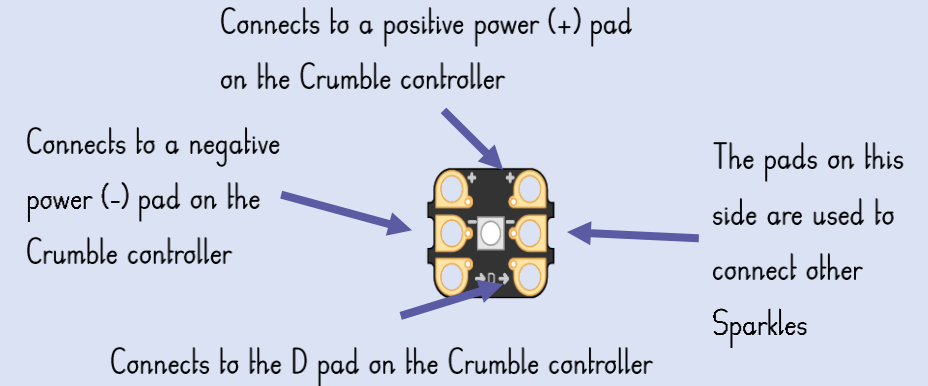# Y5/6 – How does the cookie crumble?

A **microcontroller** is a small device that can be programmed to control devices that are connected to it.

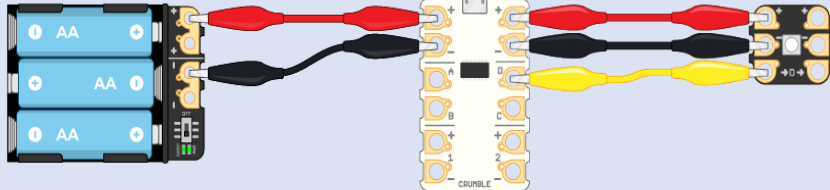This **microcontroller** is a **Crumble controller**, which can control **LEDs** and **motors**.

An **LED** is a light-emitting diode. When electricity is passed through an **LED**, it produces light.
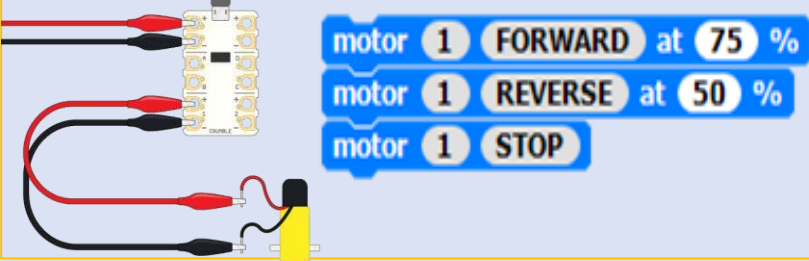
The **LED** that is controlled by the **Crumble controller** is called a **sparkle**. The **crocodile clips** provide power to light the **LED** and data to control it.

Connects to a positive power (+) pad on the Crumble controller

Connects to a negative power (–) pad on the Crumble controller

The pads on this side are used to connect other Sparkles

Connects to the D pad on the Crumble controller

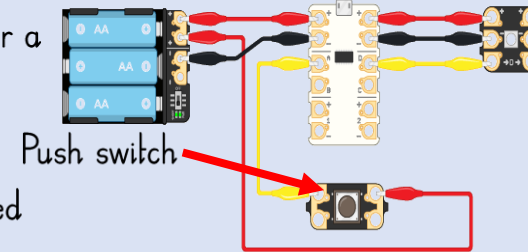Connecting your **Crumble**: The **Sparkle's** LED will flash red three times when you've connected it correctly.

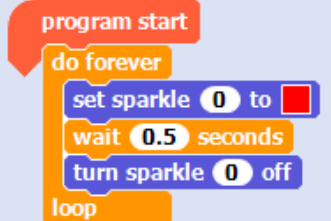A **motor** can start, stop, spin forwards, spin backwards and go at different speeds.

motor **1** FORWARD at **75** %
motor **1** REVERSE at **50** %
motor **1** STOP

A **push switch** can be used as an input for a **Crumble controller** and can be used in condition commands.

This code uses **a push switch** being pressed as a condition. When the switch is being pressed (condition is true) the circuit is described as high (HI). When the switch is not pressed (condition is false), the circuit is described as low (LO).
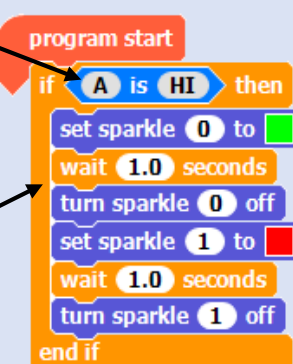
Push switch

Count controlled loop

program start
do forever
set sparkle **0** to ▇
wait **0.5** seconds
turn sparkle **0** off
loop

program start
do until **A** is **HI**
set sparkle **0** to ▇
loop
turn sparkle **0** off

Condition — if the push button is pressed

Selection command block

program start
if **A** is **HI** then
set sparkle **0** to ▇
wait **1.0** seconds
turn sparkle **0** off
set sparkle **1** to ▇
wait **1.0** seconds
turn sparkle **1** off
end if

Action to be carried out if the condition is met