

YEAR 5 – SUMMER 1 – COMPUTING Knowledge Organiser

Vocabulary

Infinite loop	A loop that commands the instructions to repeat forever
Count-controlled loop	A loop where instructions are repeated a set number of times
Condition-controlled loop	A loop that stops running when a condition is met
Conditions	Statements that need to be met for a set of actions to be carried out
Selection	Part of a program where if a condition is met, then a set of commands are run

'Do Until' commands

These commands are performed until a criteria is met. Test out this type of instruction before you program your Crumble. Here are some examples below:

Do until

1. I am allowed to read until 9pm.

1. I can play until the bell rings.

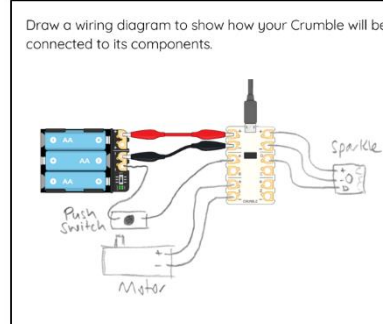
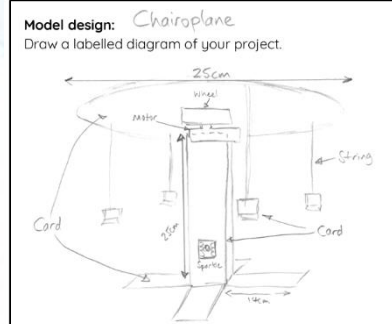
1. We have to go home when it gets dark.

1. At pedestrian crossings, the light stays green for traffic until someone wants to cross the road.



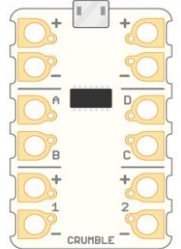
Design

You will need to use elements of D&T and Science to plan your creations in advance:



Key components:

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



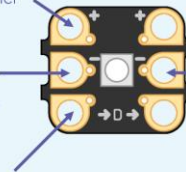
The microcontroller that you will be using is a **Crumble** controller.

The **Sparkle** is a multi-coloured LED designed to work with the Crumble:

Connecting Sparkle

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

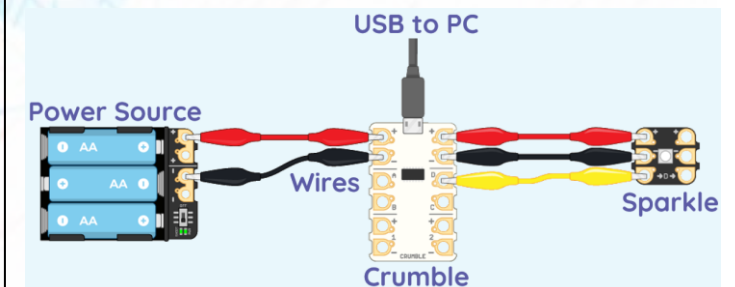
Connects to a negative power (-) pad on the Crumble controller



The pads on this side are used to connect other Sparkles

Connects to the D pad on the Crumble controller

These devices can be combined in a circuit:



YouTube: <https://www.youtube.com/watch?v=pBdxvfKYR1Y> - Introduction to Crumbles.