https://code-it.co.uk/cc

Crumble Introduction

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WIFI
HG1 Reward
Password
SOAWC

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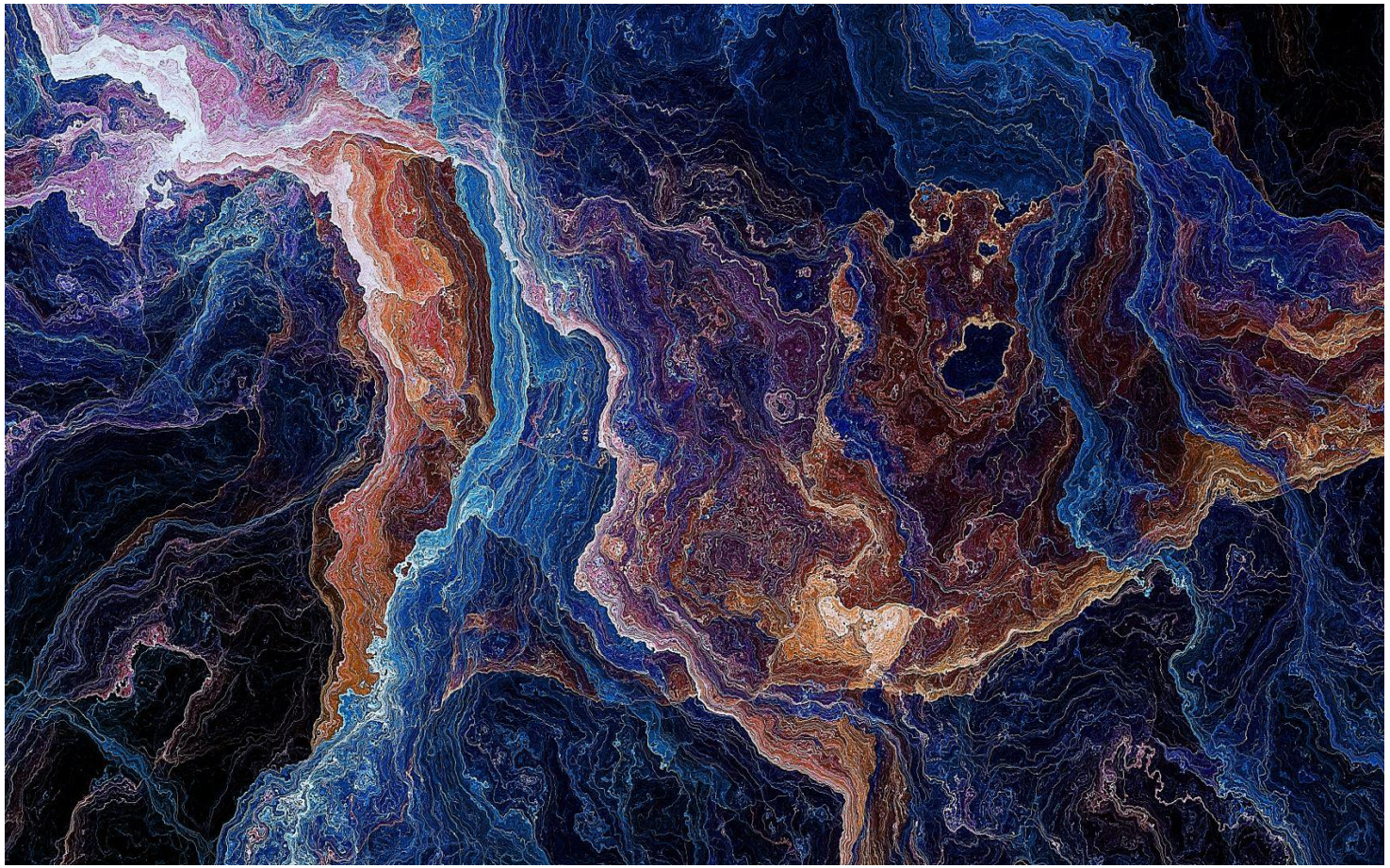
Getting to know you

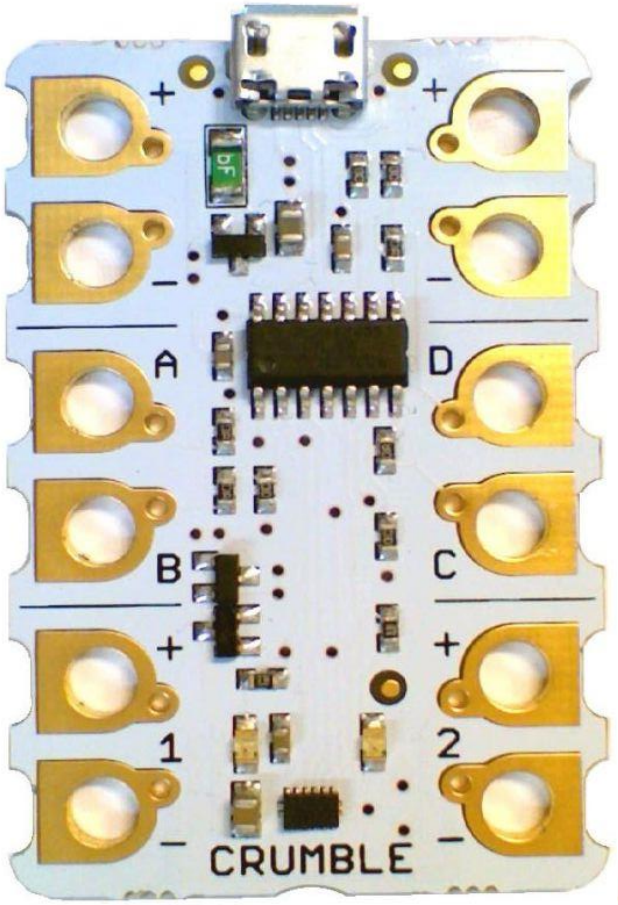
Name and school

What is your programming ability
Sequence/Loops/Conditions/Variables/Procedures

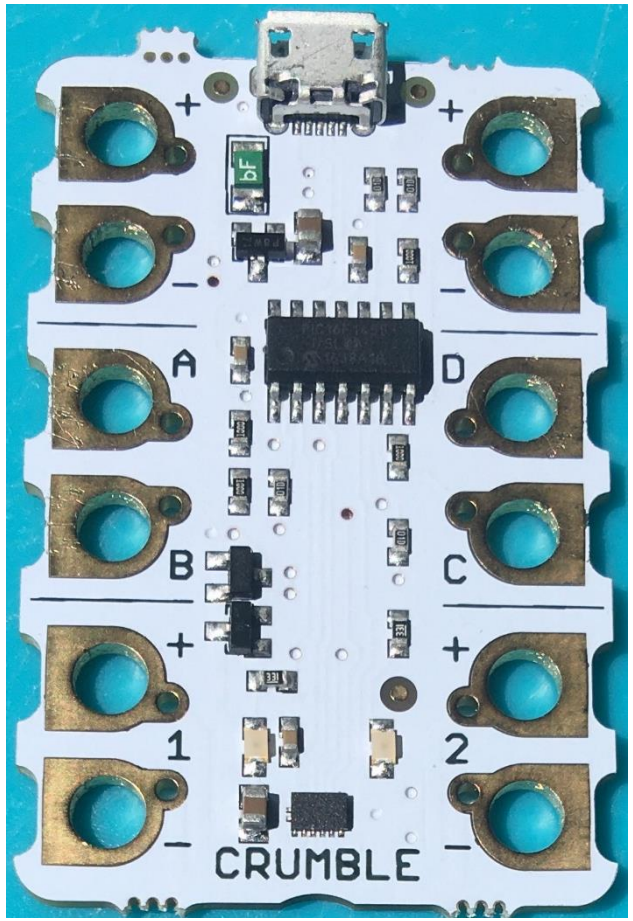
What do you want from the course?

Part One Crumble introduction





What is the Crumble



A control board for programming small electronic projects

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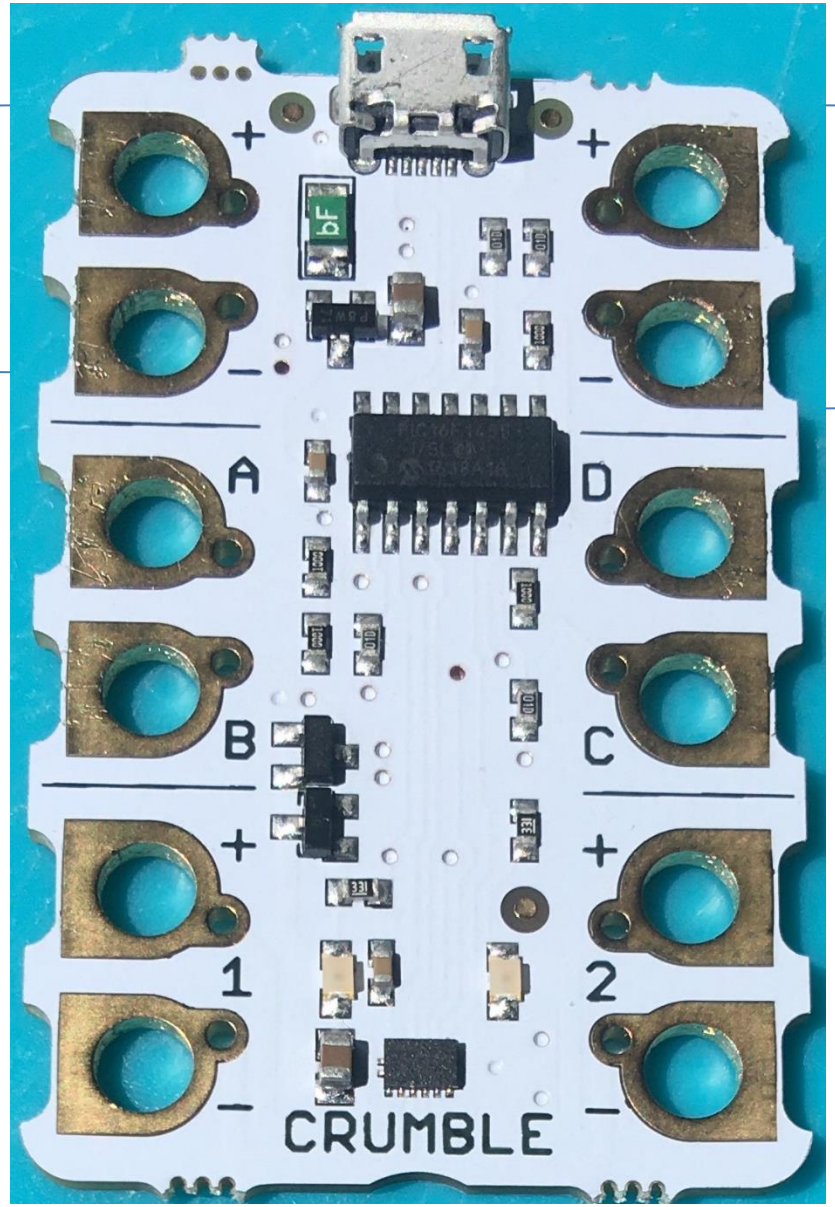
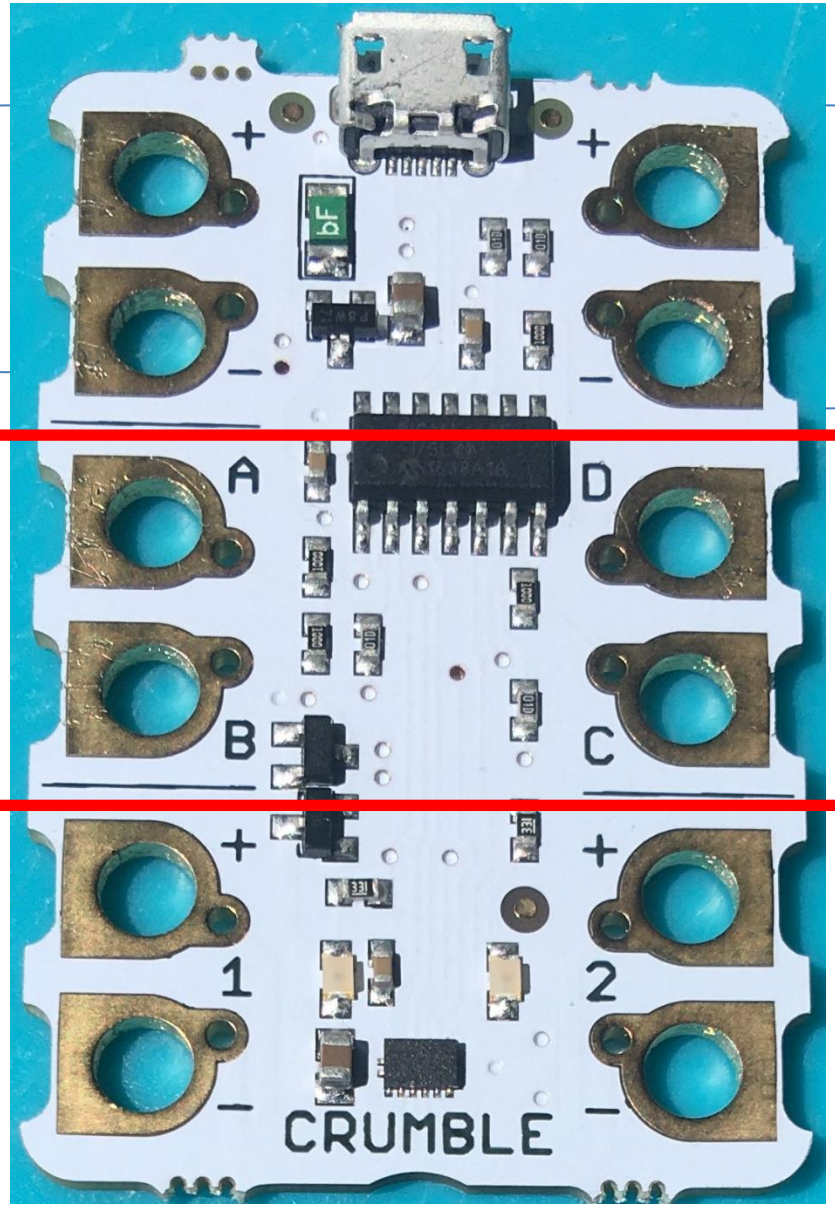
Battery Pack



Power out to power lights buzzers etc

Battery Pack



Power out to power inputs and outputs

Controls inputs (buttons) and outputs (buzzers etc)

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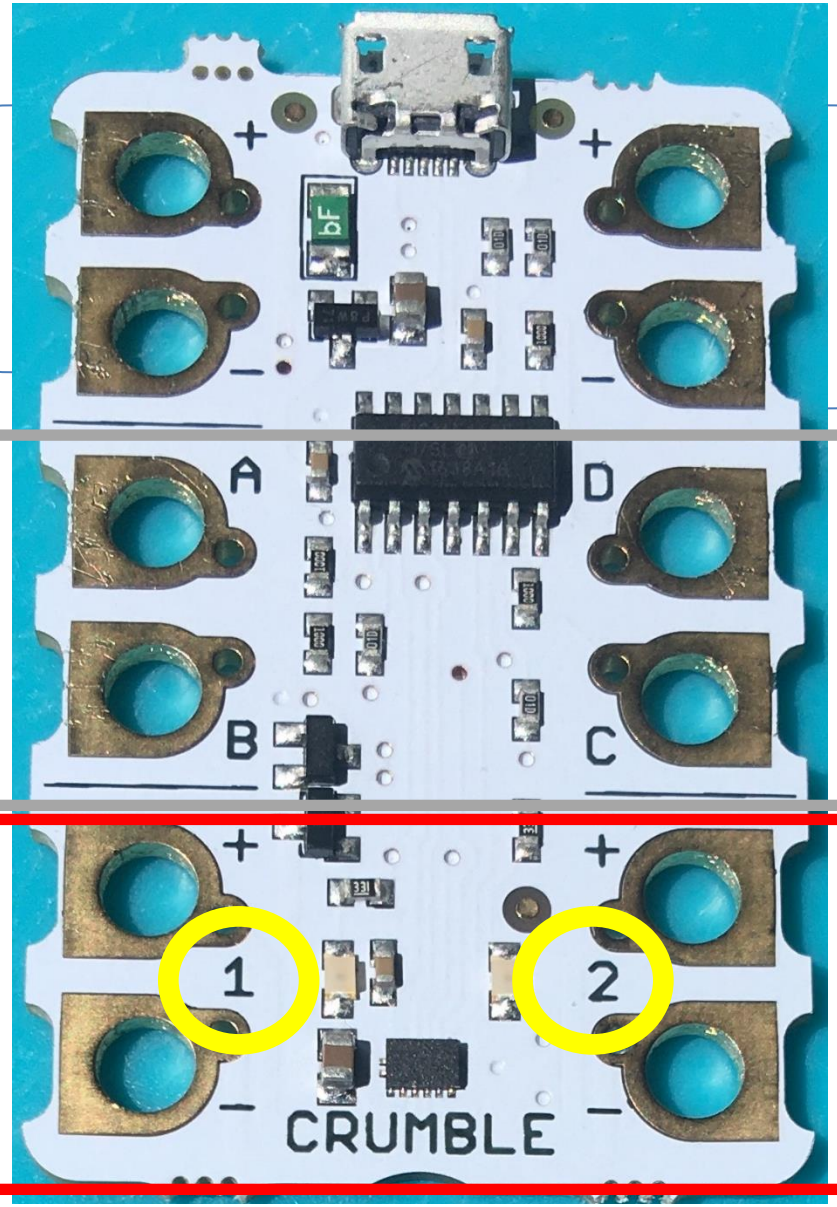
Battery Pack



Power out to power inputs and outputs

Controls inputs and outputs

Controls motors

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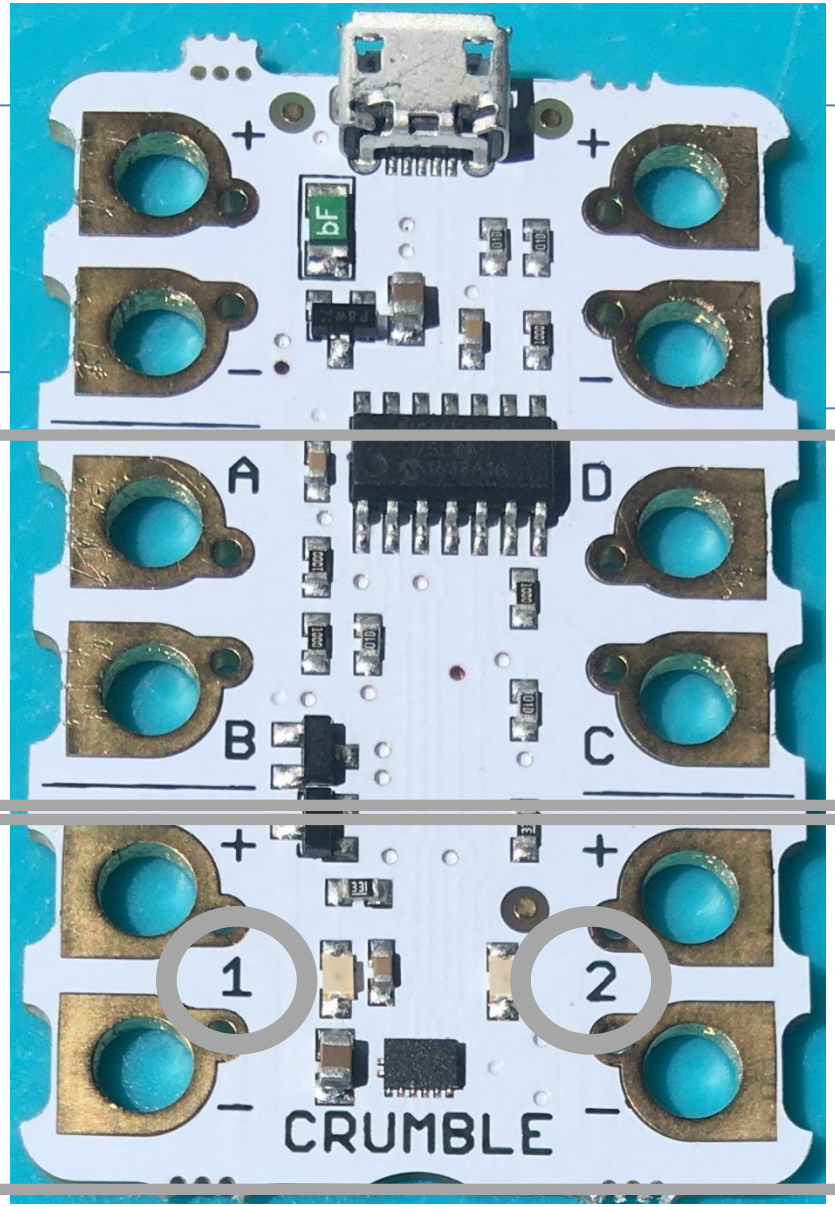
USB to PC



Battery Pack

Power out to power inputs and outputs

Controls inputs and outputs

Controls motors

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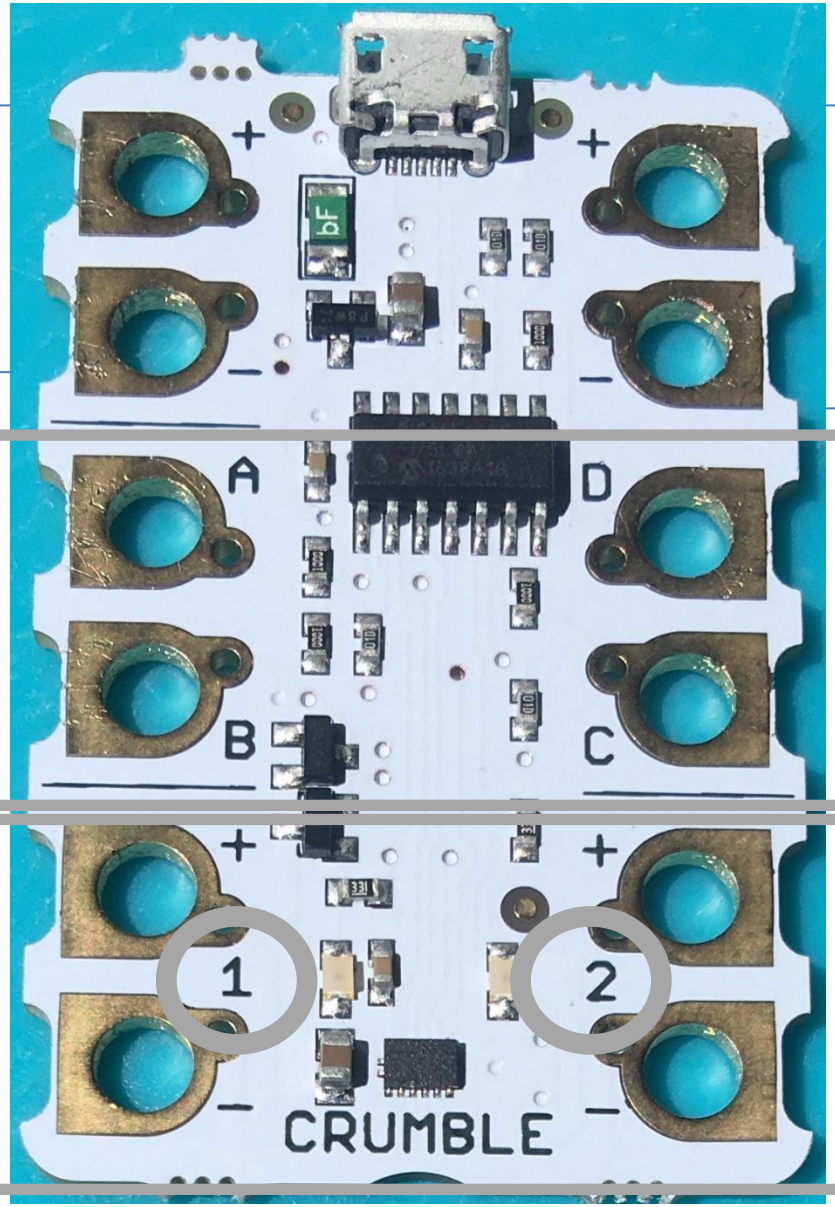
USB to PC

Battery Pack



Power out to power inputs and outputs

Controls inputs and outputs

Controls motors

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USB to PC

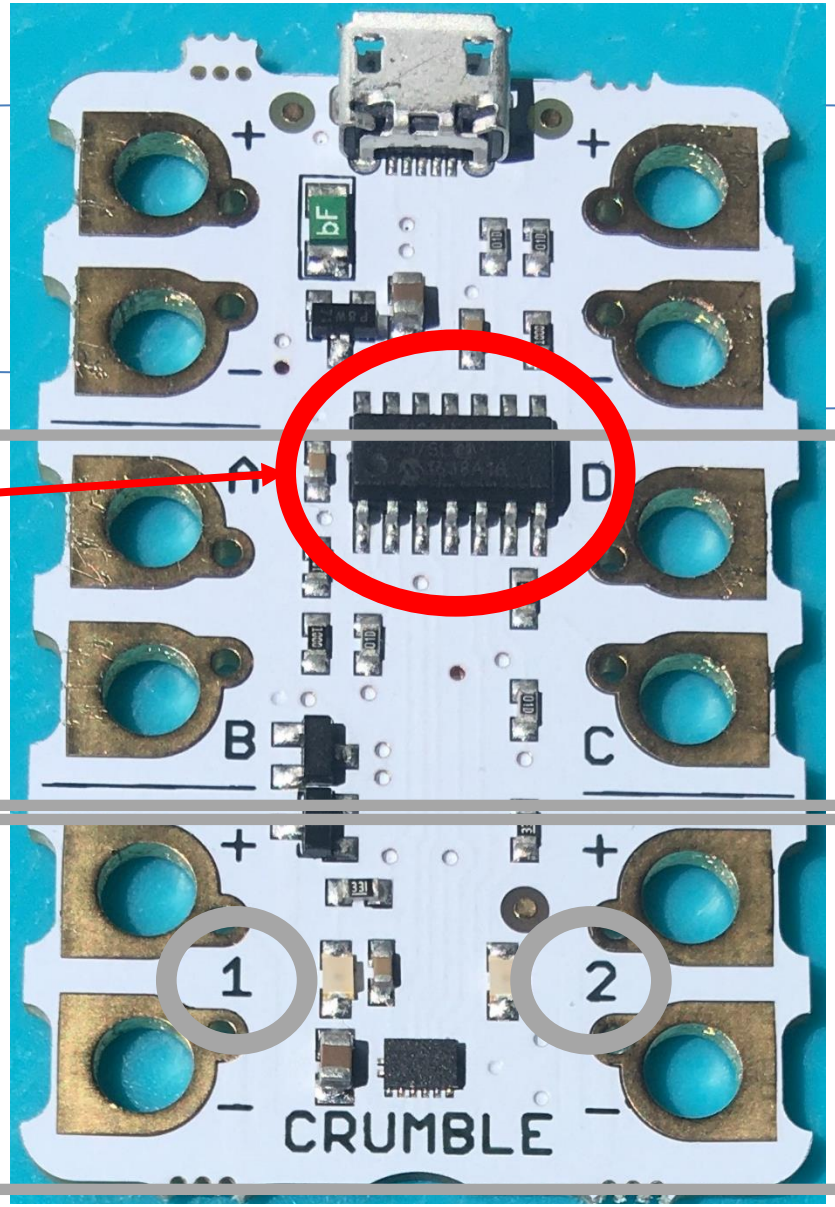
Battery Pack

Microchip Stores programme

Power out to power inputs and outputs

Controls inputs and outputs

Controls motors



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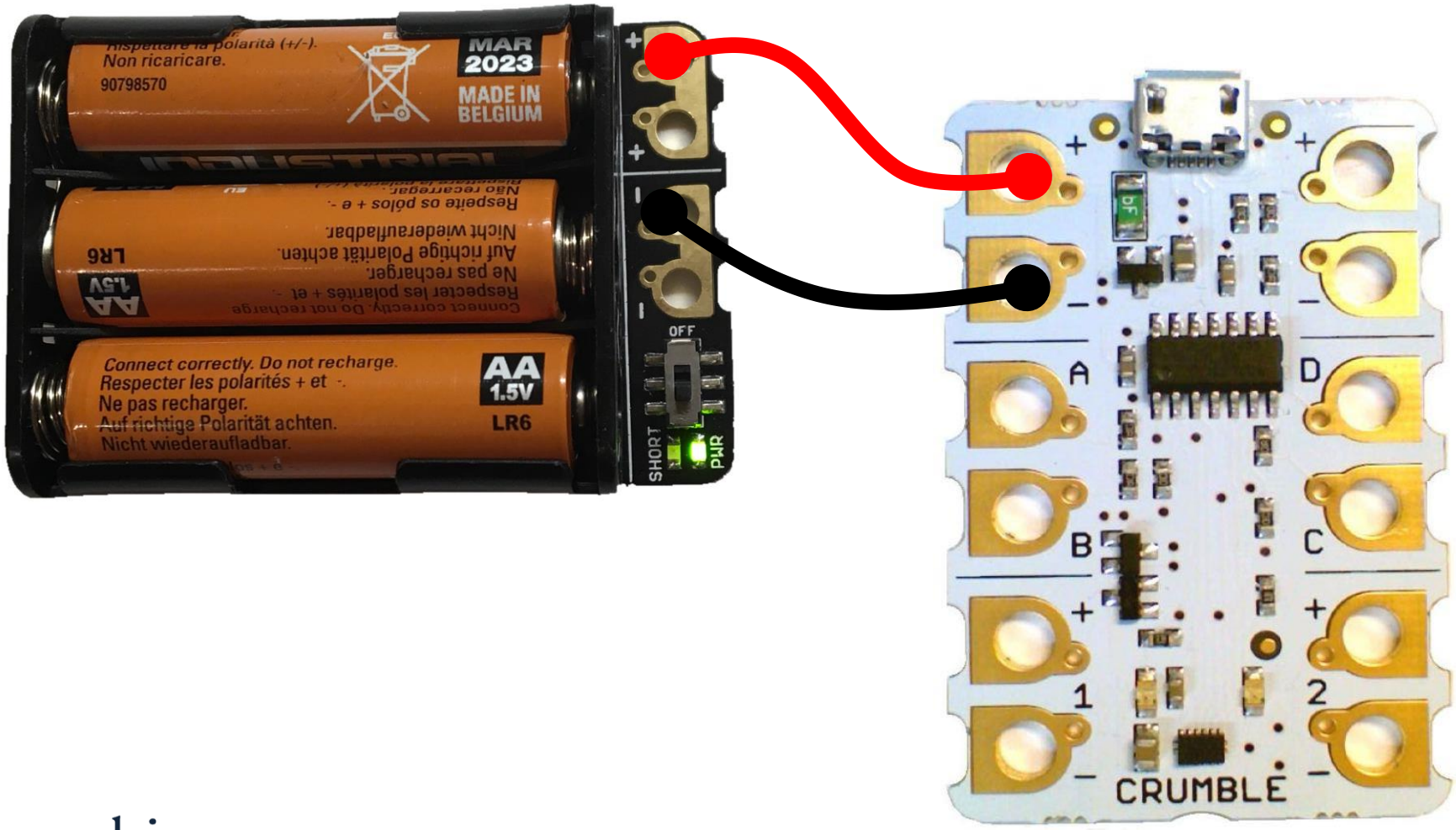
Part Two Wiring the basics



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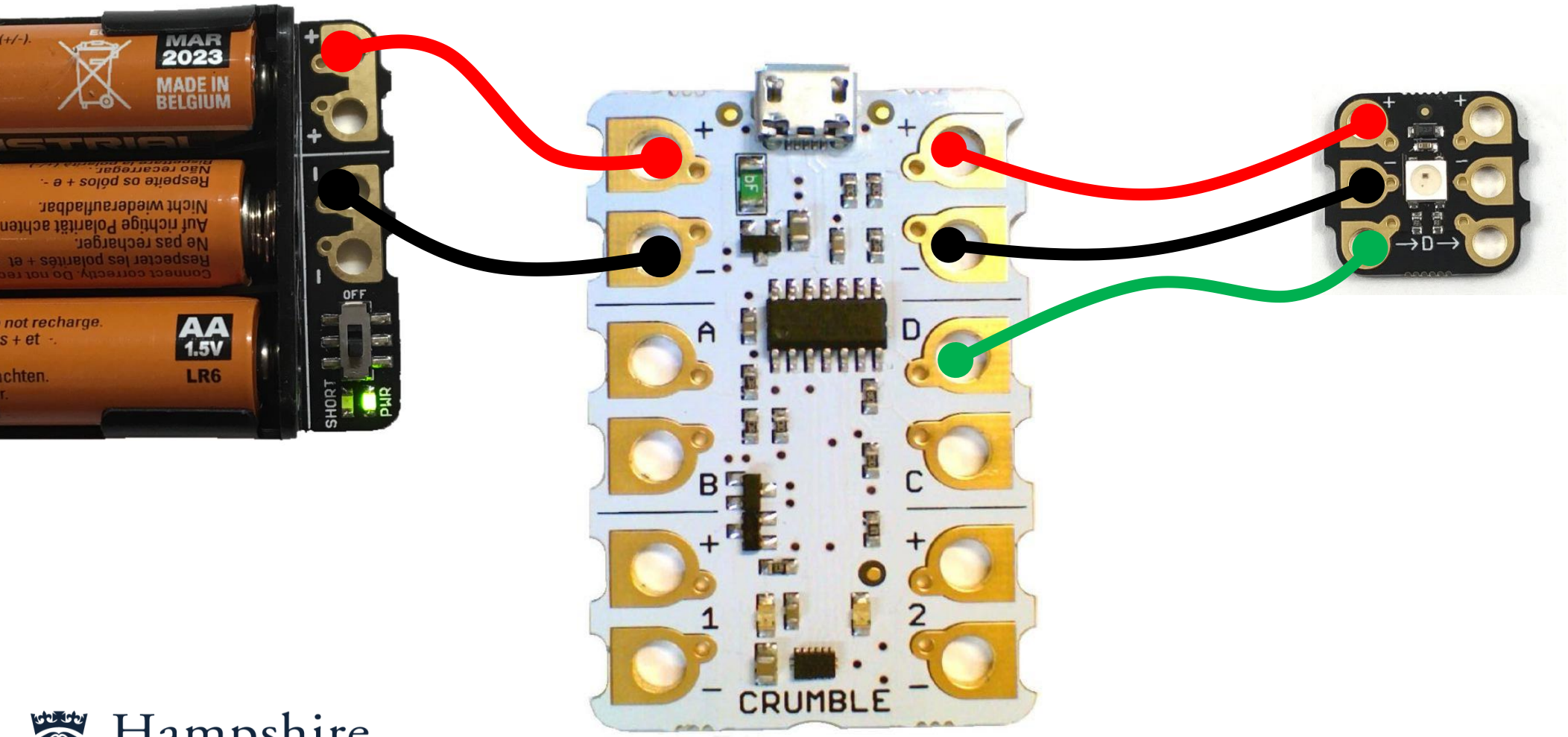
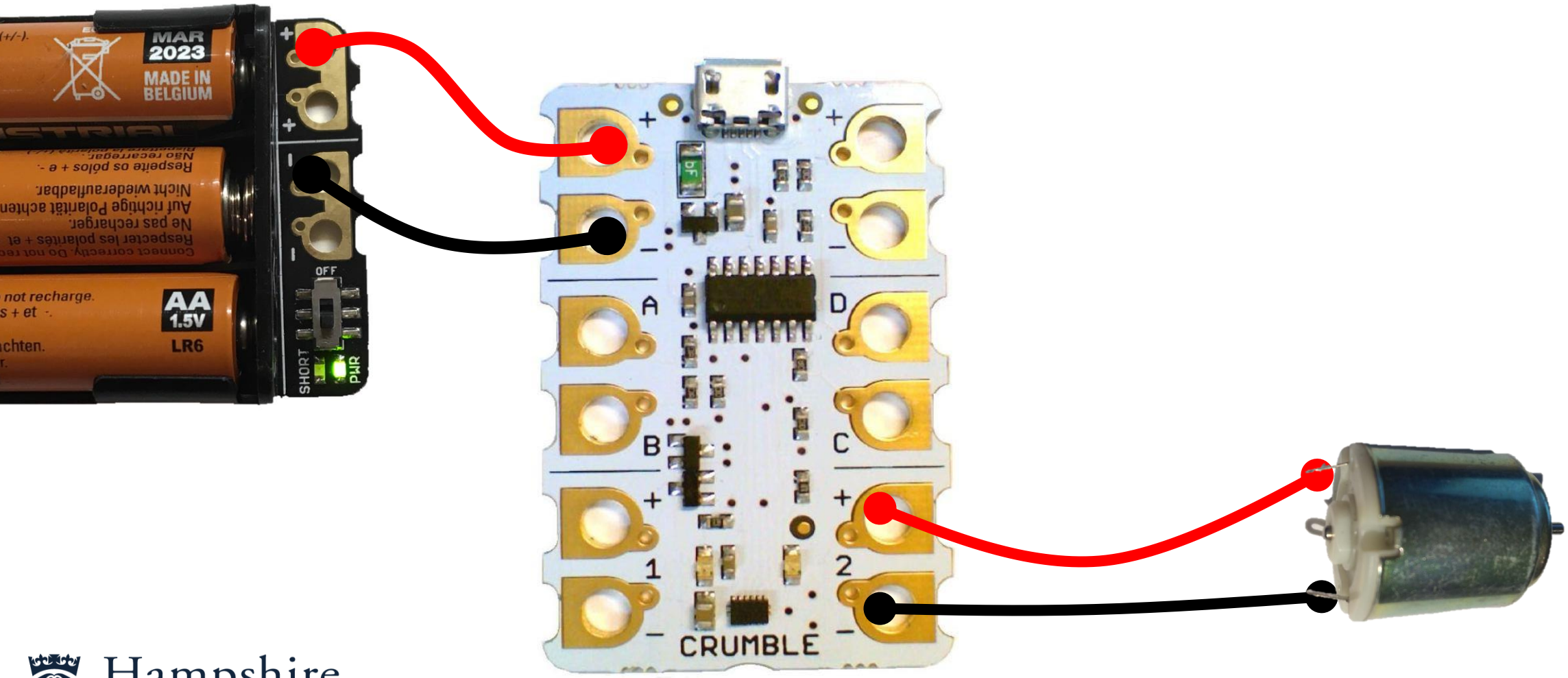
Sparkles output



Motors output



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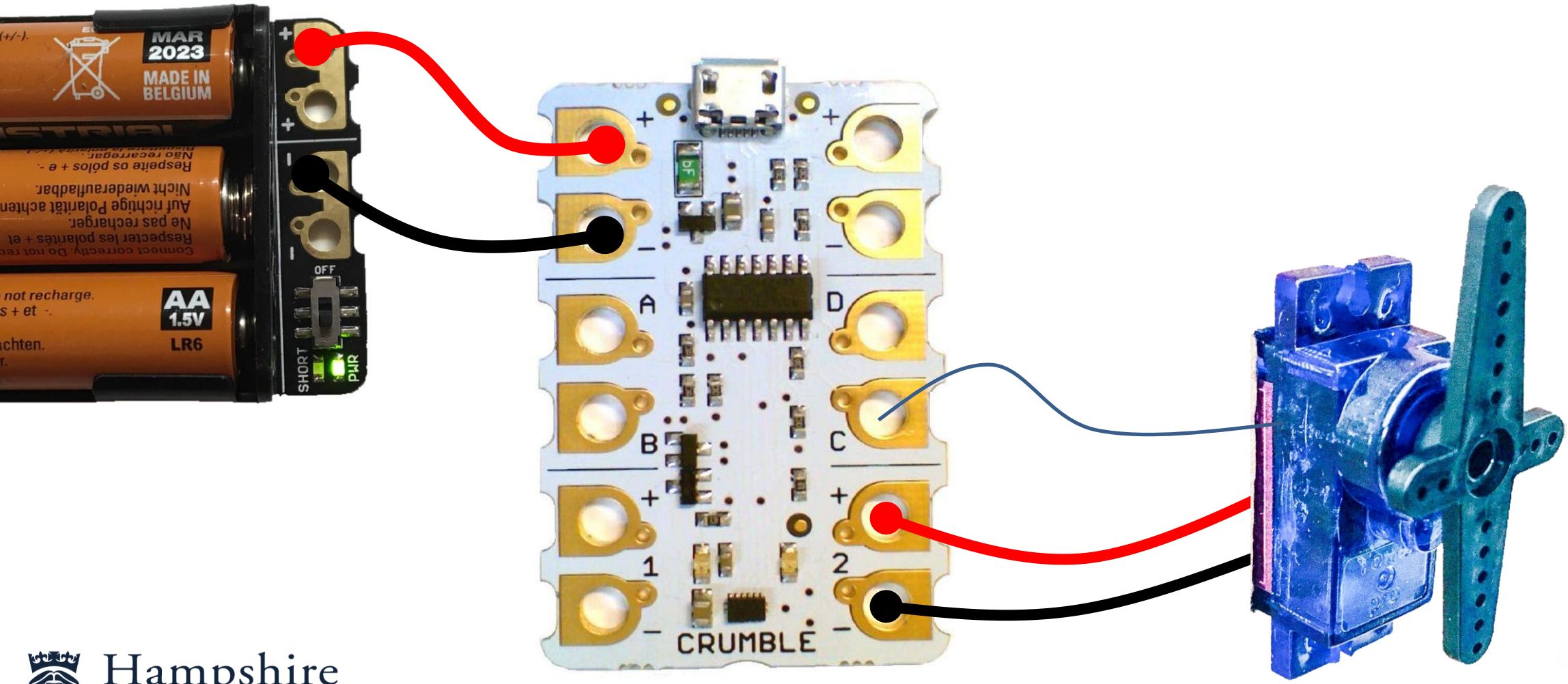
Servos output



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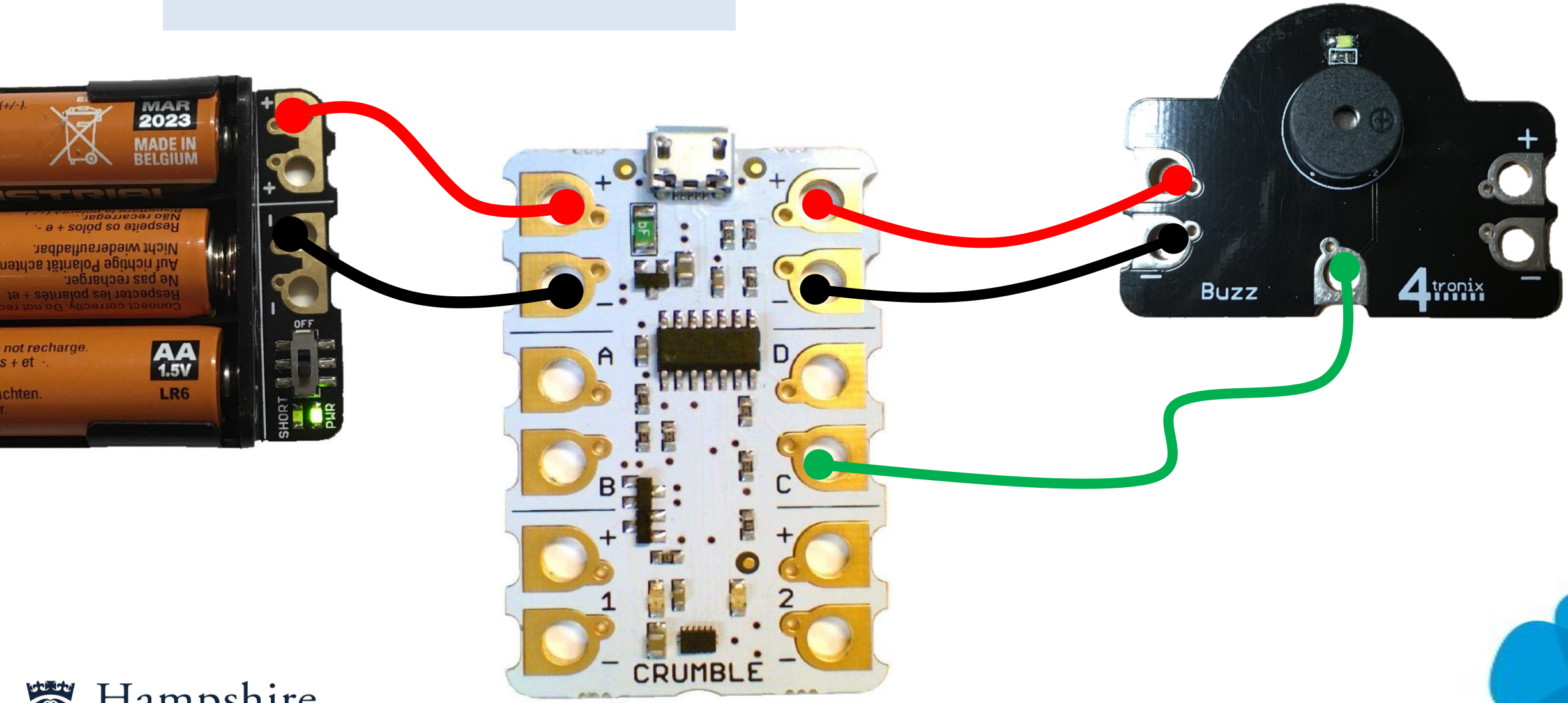
Buzzer output



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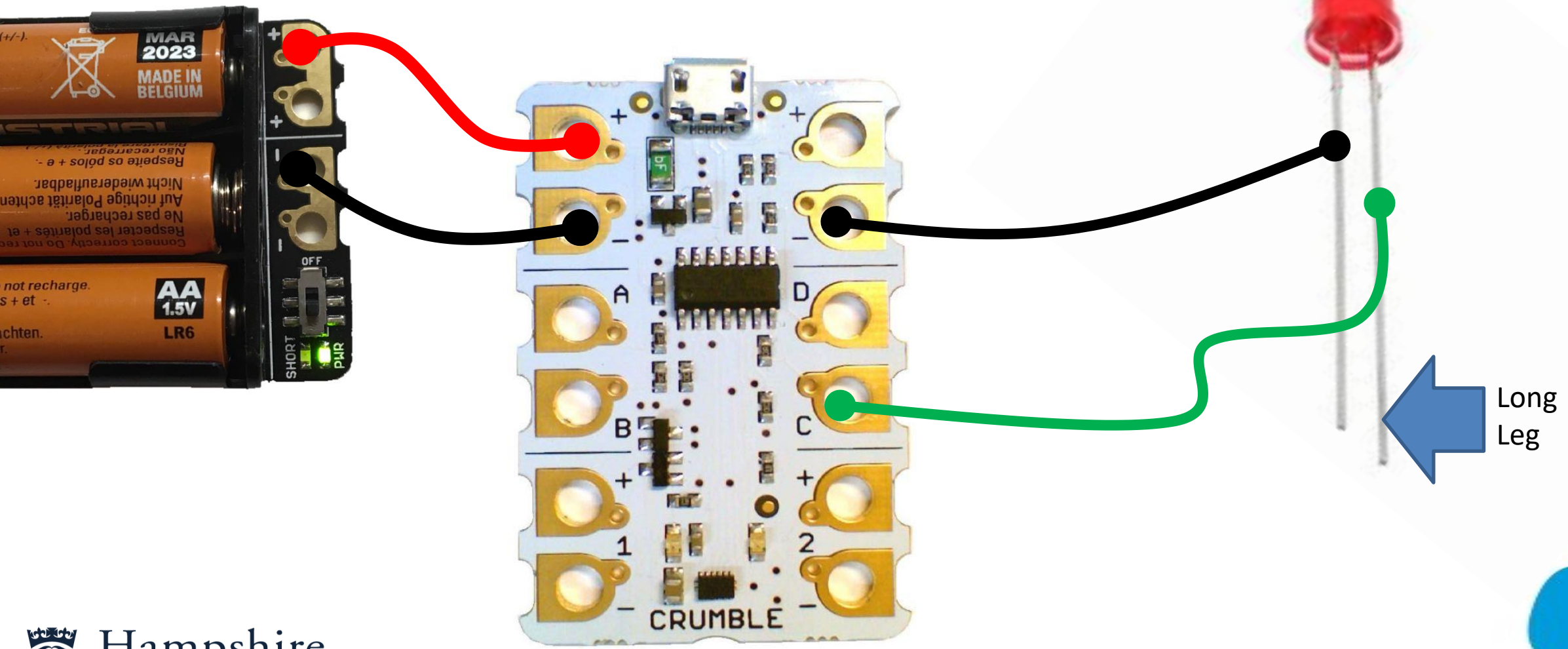
LED output



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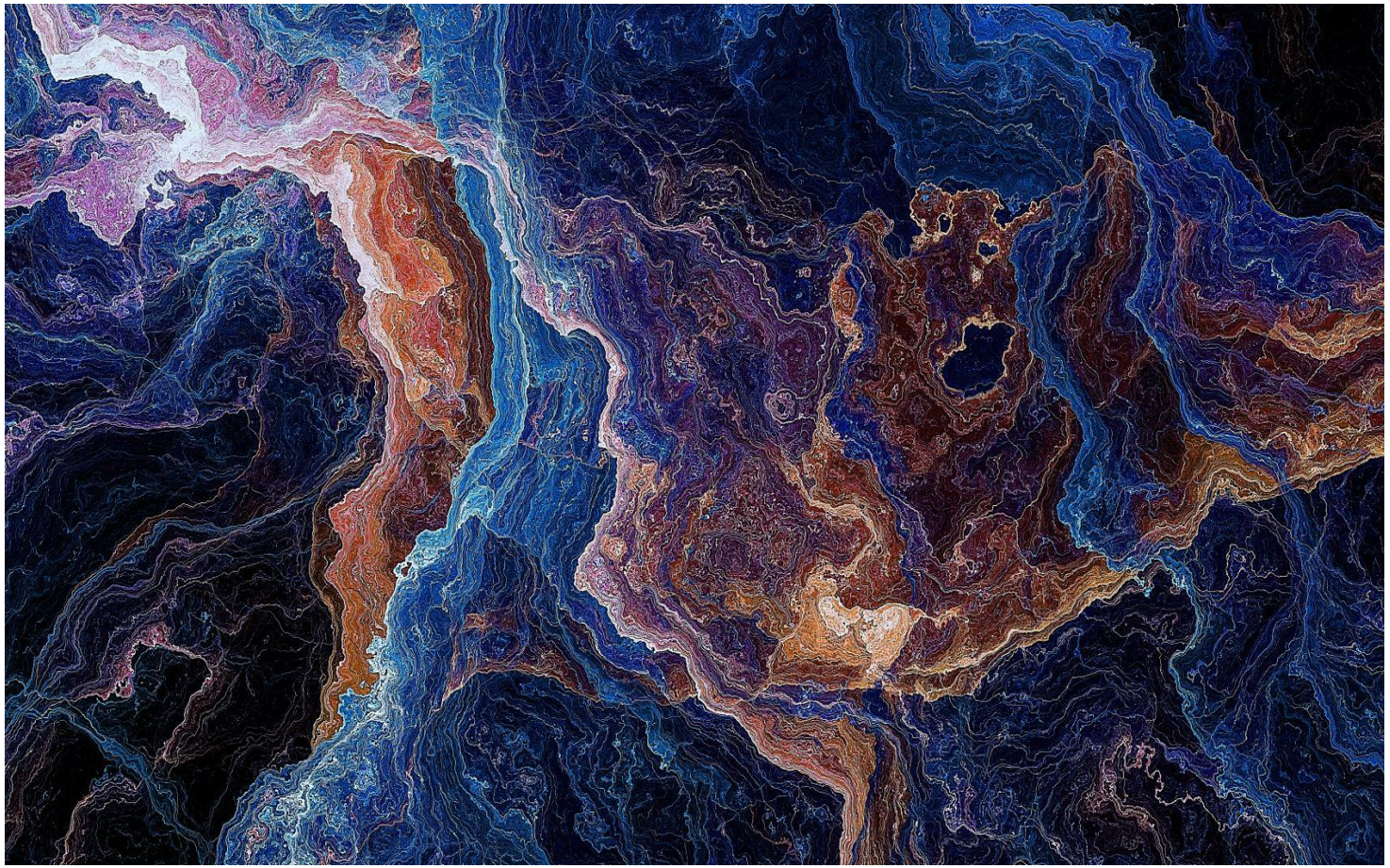
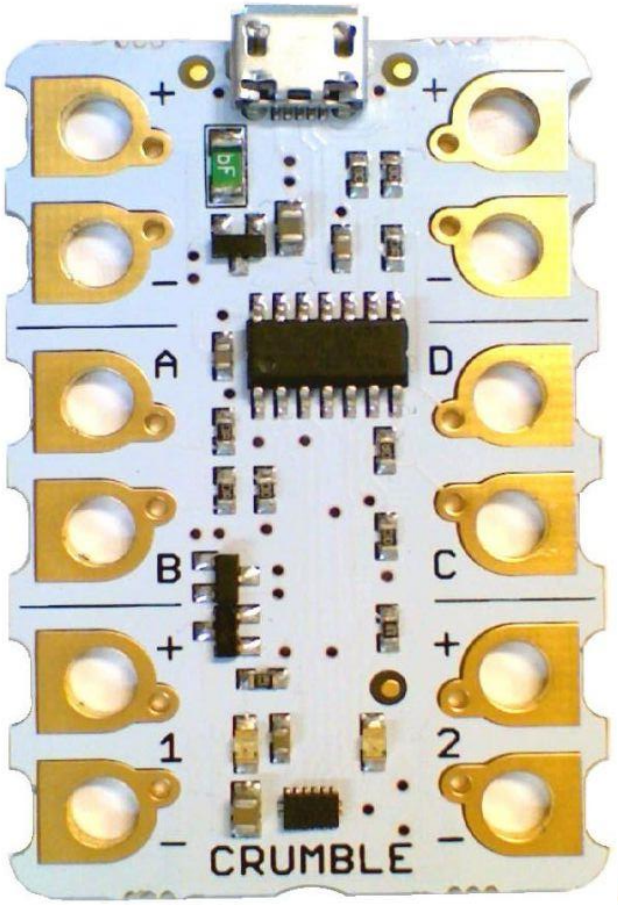
Crumble Programming Progression





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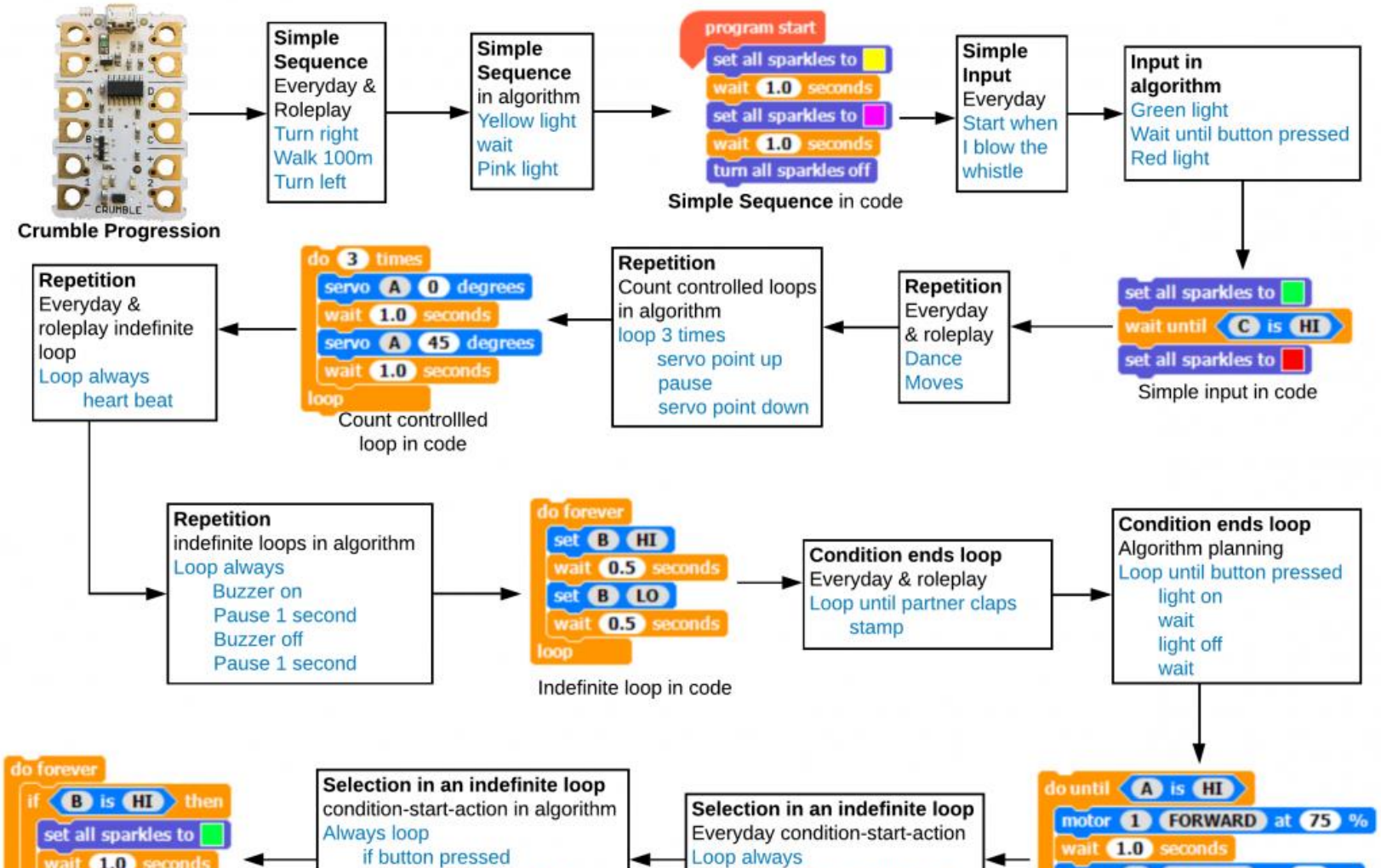
Programming progression

- Sequence
- Loops
- Conditions
- Variables



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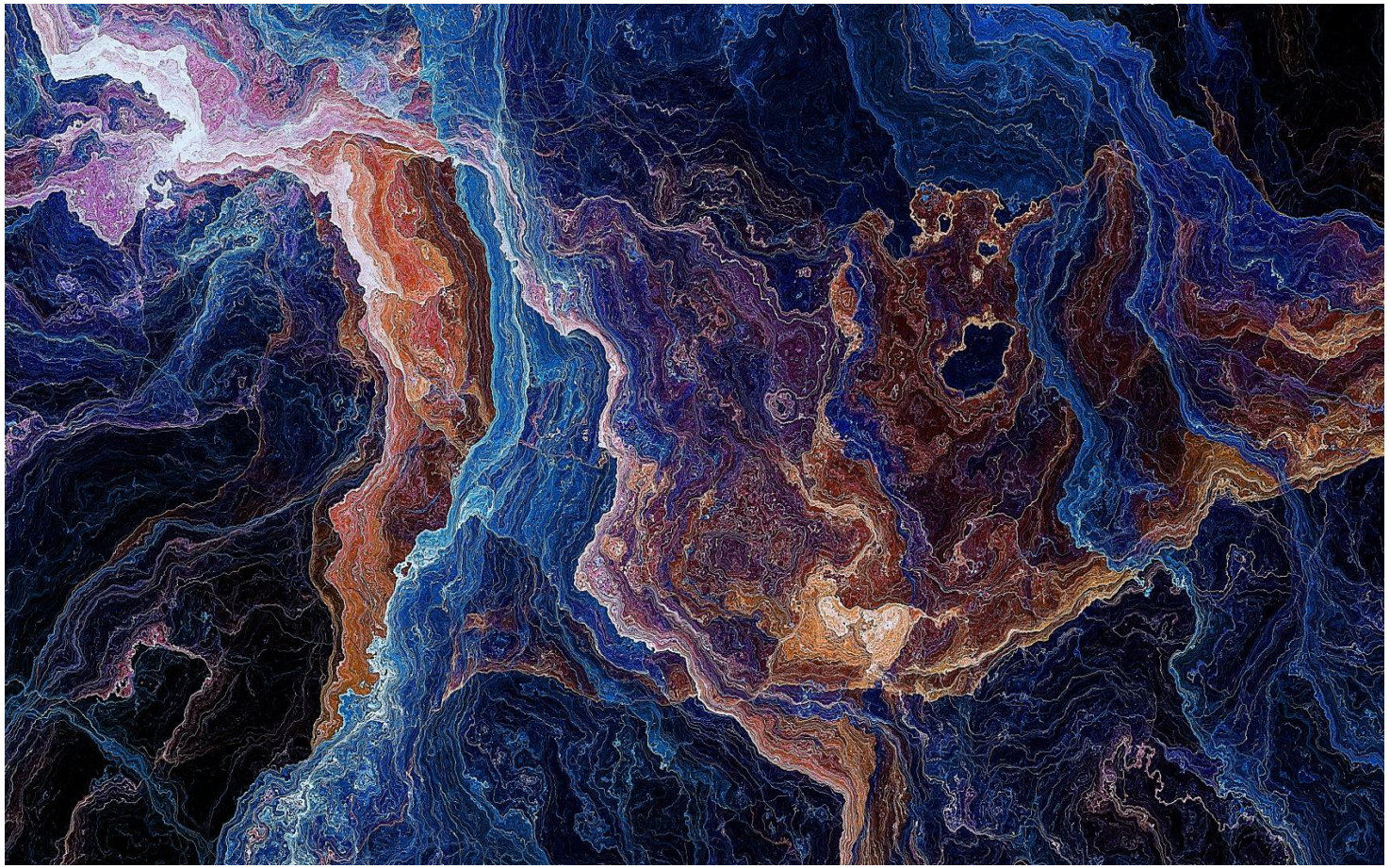
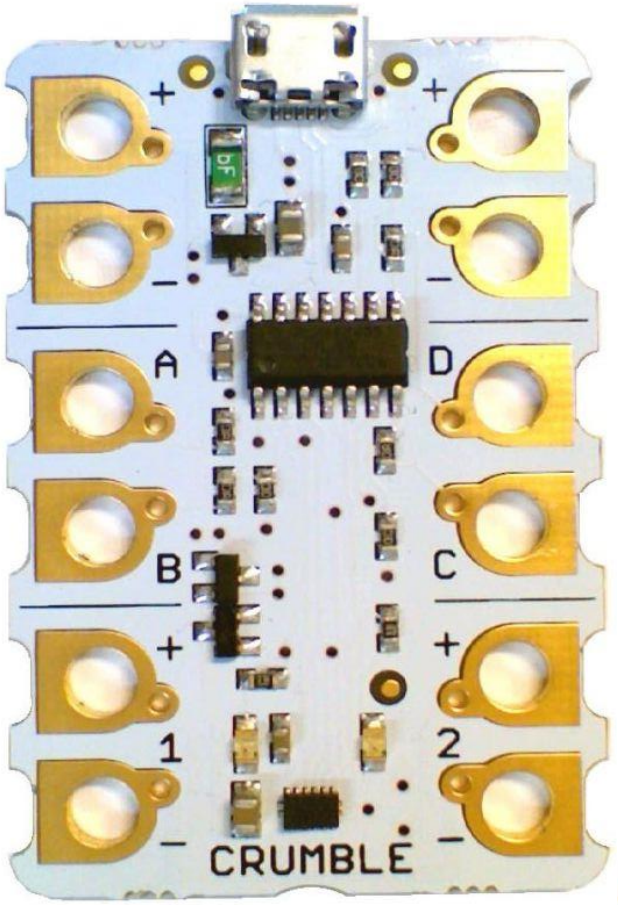
Programming concepts





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USE CRUMBLE CONCEPT SLIDES

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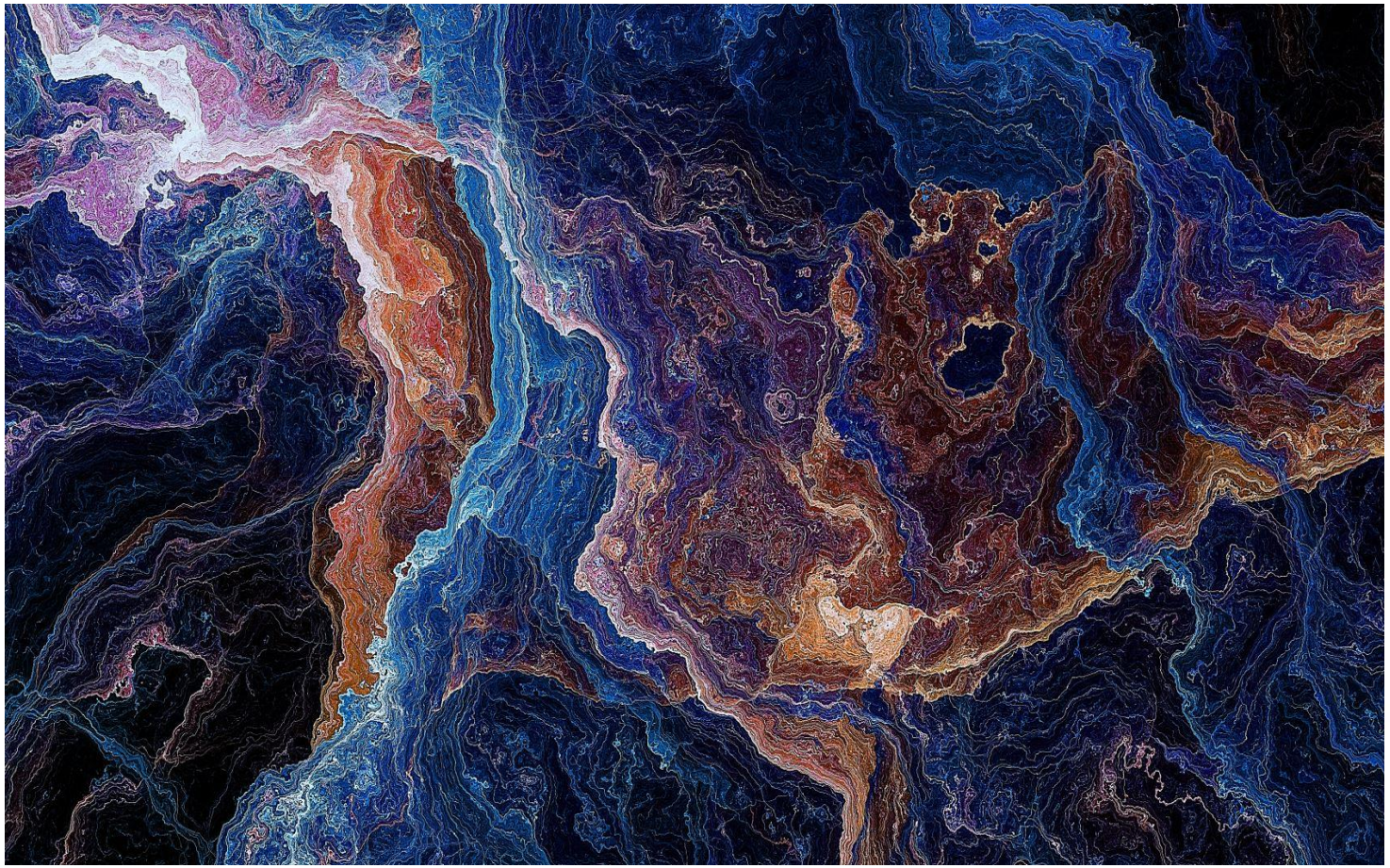
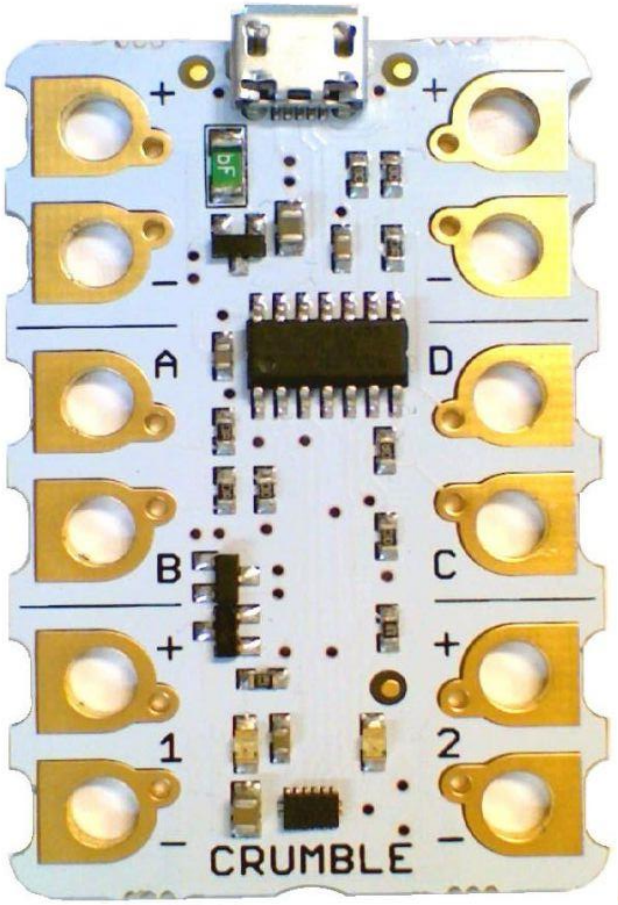
Teaching methods





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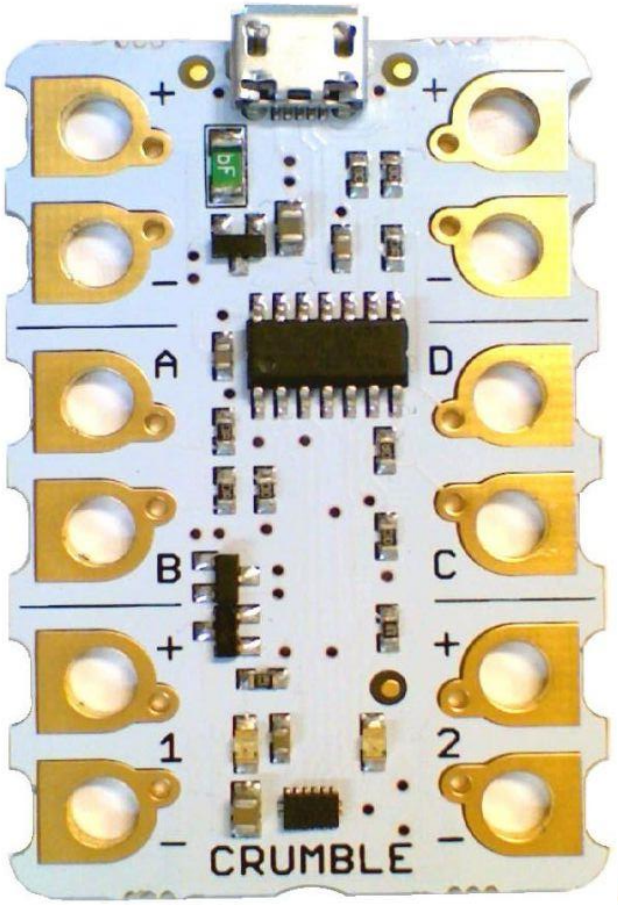
Teaching methods

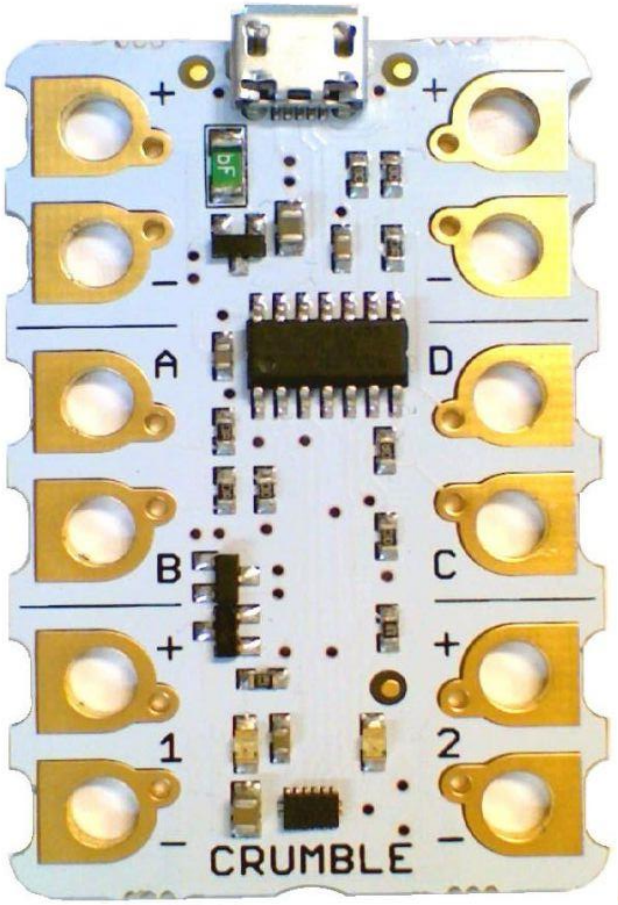
Always reduce base programming concepts by one level to reflect multi tasking project DT + Programming



Concept intro slides if not taught using Scratch

If concepts have not been taught using Scratch then

- Sequence
- Count controlled loops
- Indefinite loops
- Condition ends loop
- Conditions inside loops
- Variables



Copy code

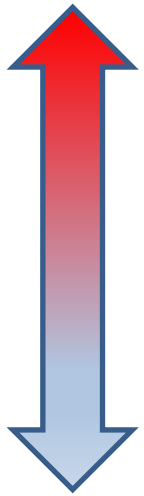
Pupils are given the code to copy

The least likely method to produce programming agency less thinking behind it

Parsons problem

Pupils are given a Crumble file with all the code disconnected for them to build from

- A full algorithm
- An idea with a concept suggestion
- An idea only
- No suggestion



PRIMM (Predict, Run, Investigate, Modify, Make)

Pupils are given a paper copy of the code and asked to **predict** what it will do

They then connect the crumble and accessories and **run** prepared code

They then have **investigate** questions about the code linked to the main concept and initialisation

Followed by **modifying** code to solve a challenge

Finally they design and **make** something similar

http://code-it.co.uk/crumble-gold/

Resources

http://code-it.co.uk/cards/

Crumble Book

https://amzn.eu/d/3ewg07k

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Any Questions?

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