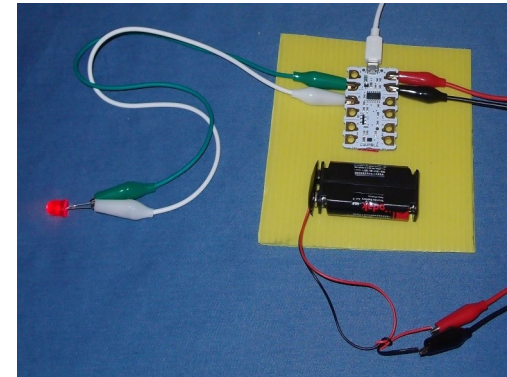
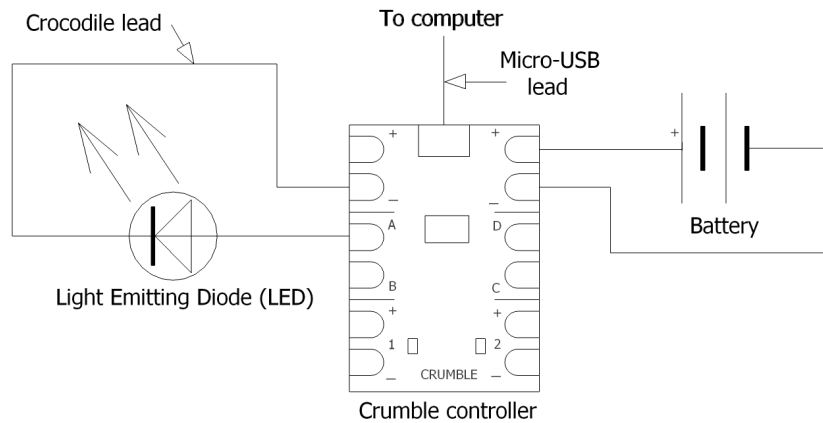


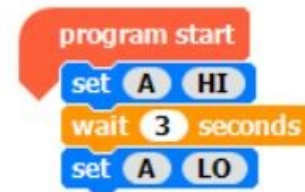
STEP 8

Disconnect the crocodile leads to the bulb holder and use them connect up the LED as shown. Connect the longer leg to terminal A and the shorter leg to the negative (-) terminal next to it.



STEP 9

Click on 'File New' to start a new program. Create the following program, run it and check the LED lights up for a few seconds, then goes off. Save the program, calling it 'Light LED'.



EXTENSION ACTIVITIES (optional):

1. What happens if you connect the LED the other way round?

2. Re-connect the lamp and try making it glow more or less brightly. You can click on '75' and alter the value.



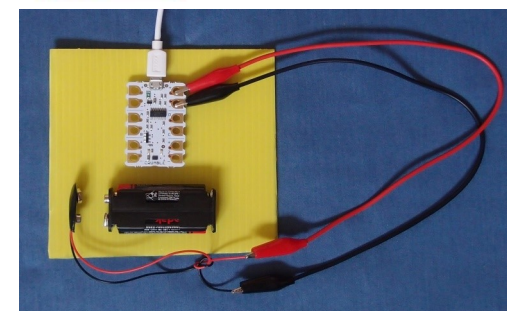
3. What happens if you connect the lamp the other way round?

4. Try writing a program to make the lamp flash on and off. Here is an example in case you need help.



STEP 10

Unclip the snap battery connector from the battery holder when not in use to avoid draining the battery.



CRUMBLE WORKBOOK 1 CONTROLLER SET-UP

NAMES:

.....

.....

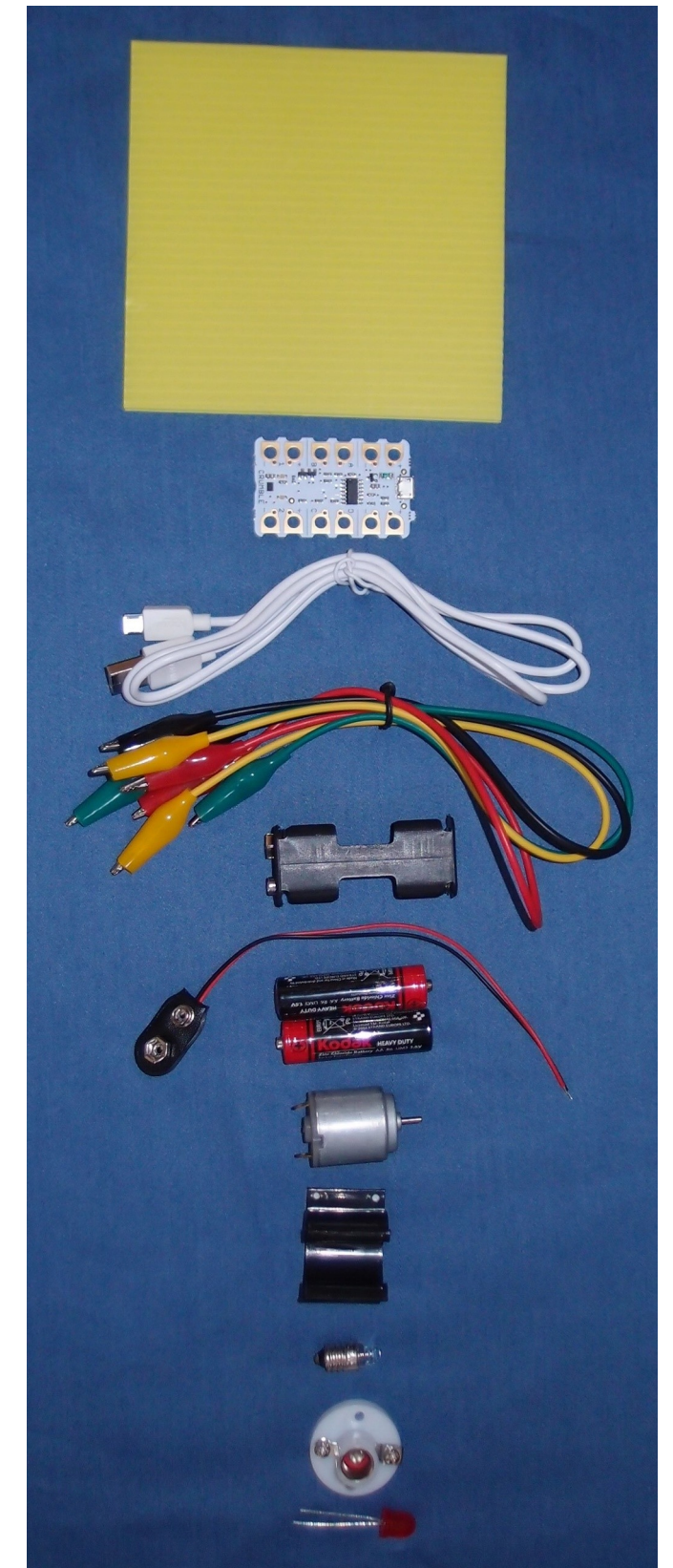
YOU WILL NEED:

Parts

- 1 square of corrugated plastic (base)
- 1 Crumble controller
- 1 micro-USB cable
- 4 crocodile leads
- 1 battery holder 2 x AA
- 1 snap battery connector
- 2 AA cells
- 1 motor
- 1 motor mount
- 1 bulb
- 1 bulb holder
- 1 LED

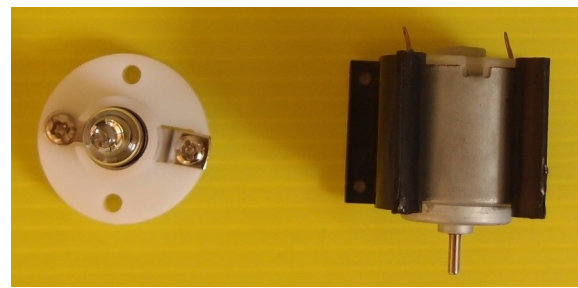
Tools and consumables

- Computer
- Pencil
- Ruler
- Pair of scissors
- Double sided sticky tape
- Offcuts of corrugated plastic
- Low melt glue gun



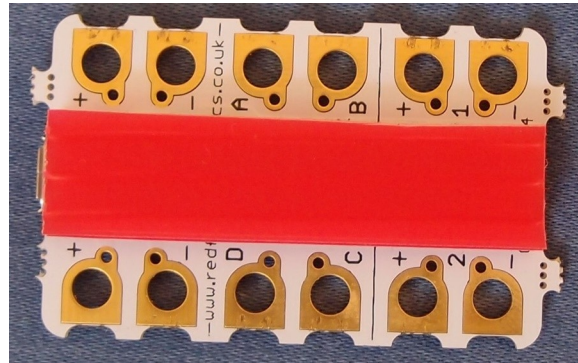
STEP 1

Screw the bulb into the bulb holder and clip the motor into the motor mount.



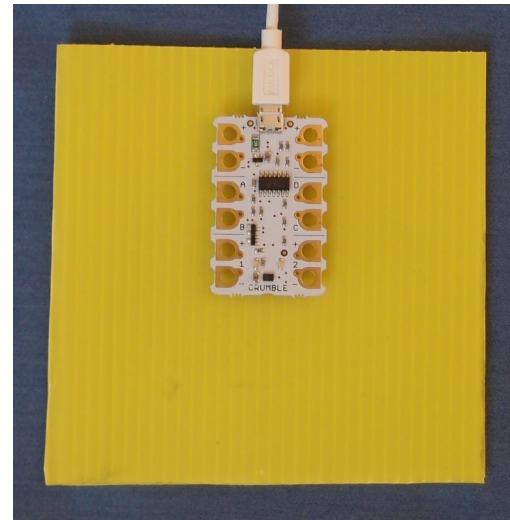
STEP 2

Cut a strip of corrugated plastic 1.2 cm x 5 cm from the offcuts. Use double sided tape to stick it onto the Crumble controller on the side without components on.



STEP 3

Glue the plastic strip down onto the base. Plug one end of the micro-USB cable into the socket on the Crumble controller and the other into your computer.



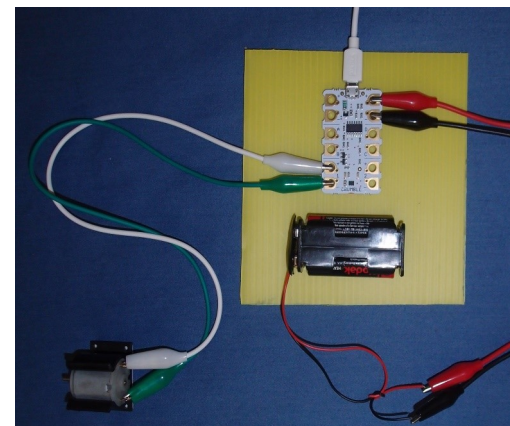
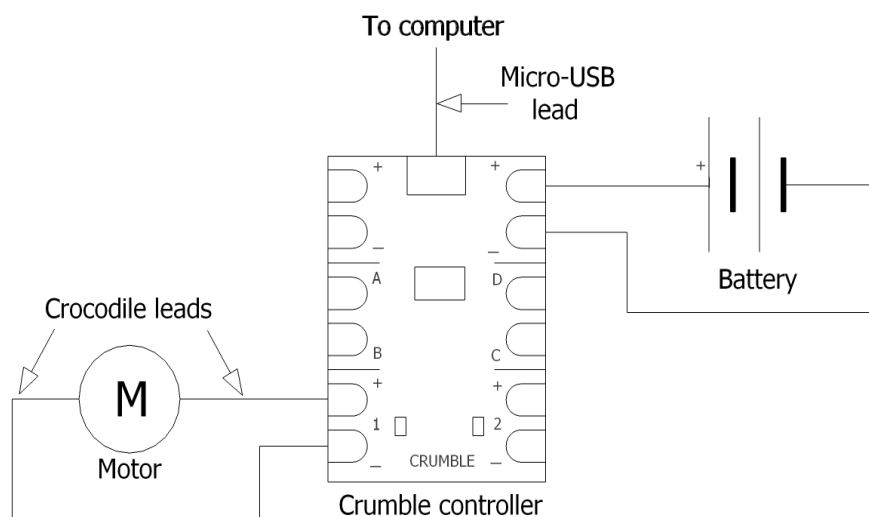
STEP 4

Tie the battery snap wires in a reef knot so the metal ends point away from each other.



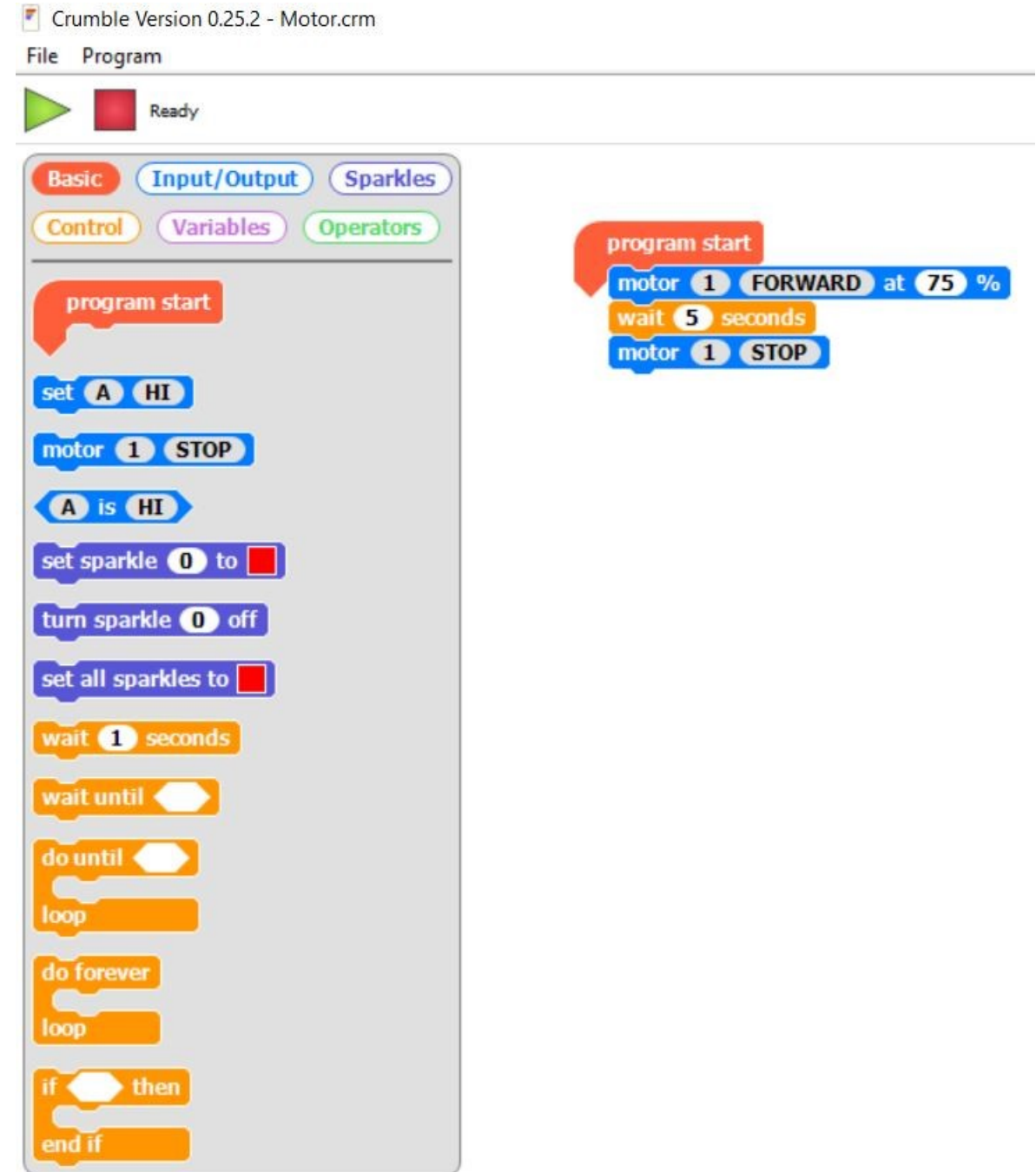
STEP 5

Push the battery snap connector firmly onto the battery holder. Connect up this circuit and fit the cells into the battery holder. Glue the battery holder to the base.



STEP 6

On your computer, double click on 'Crumble'. Drag and drop commands from the left hand side to create the program shown on the right. Click on the green arrow (top left) to run the program and check the motor shaft turns for a few seconds and then stops. Save the program in the Crumble folder, calling it 'Run motor'.



STEP 7

Unclip the crocodiles from the motor contacts and clip them onto the lamp holder terminals instead. Run the program and check the lamp comes on.

