

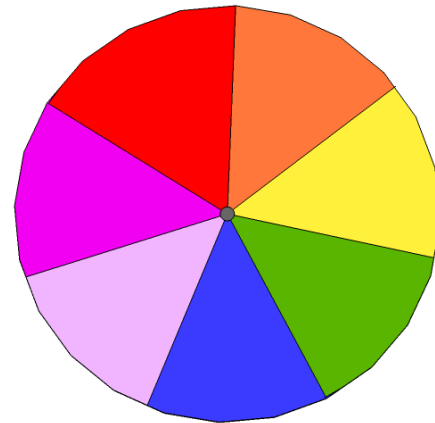
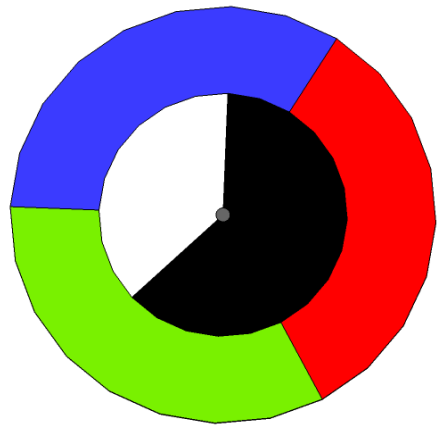
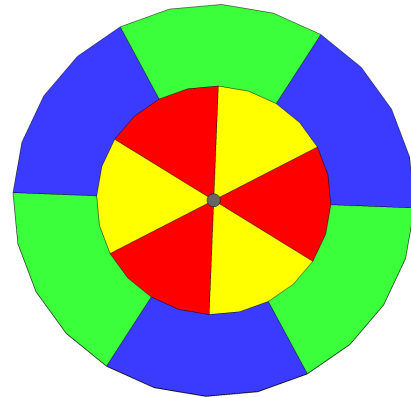
STEP 8

Try altering the speed and direction of the motor and the time for which it runs. An example is shown here.

```
program start
motor 1 REVERSE at 100 %
wait 20 seconds
motor 1 STOP
```

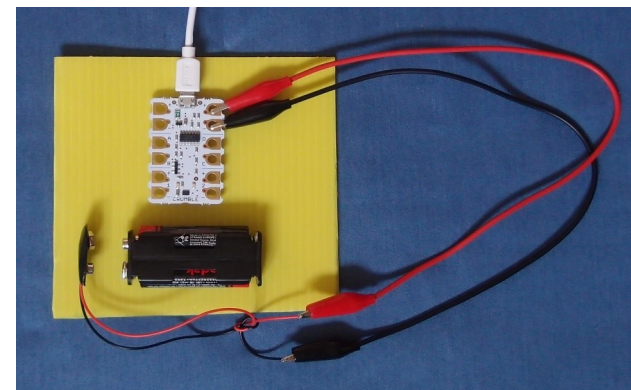
EXTENSION ACTIVITIES (optional):

1. Use additional card discs to experiment with different colour mixing effects. Here are some examples.



2. If a rainbow is caused by raindrops splitting white light into its component colours, then if you mix light in all the colours of the rainbow what would you expect to see? What do you actually see when you try it?

3. Try making discs with spiral patterns and rotating them slowly one way and then the other to see the effects.



STEP 9

Unclip the snap battery connector from the battery holder when not in use (as shown on the right) to avoid draining the battery.



CRUMBLE WORKBOOK 2 COLOURED SPINNER

NAMES:

.....

.....

.....

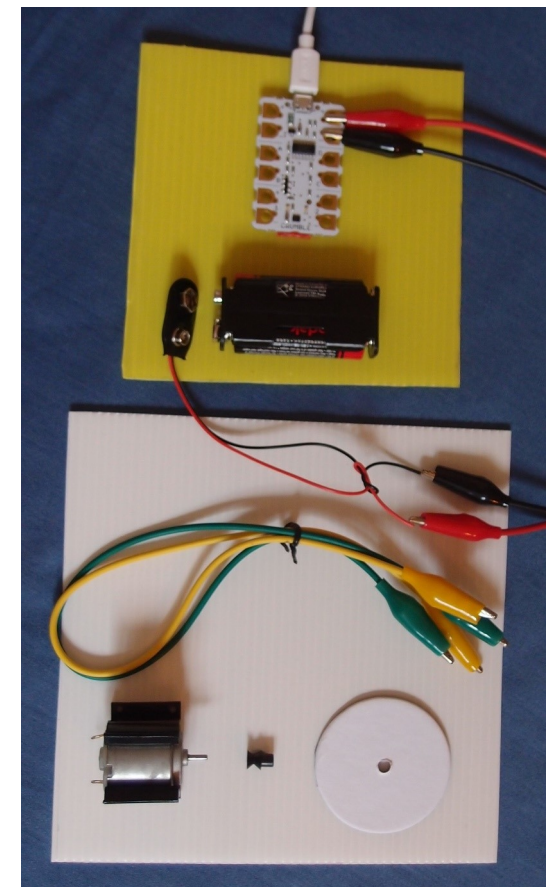
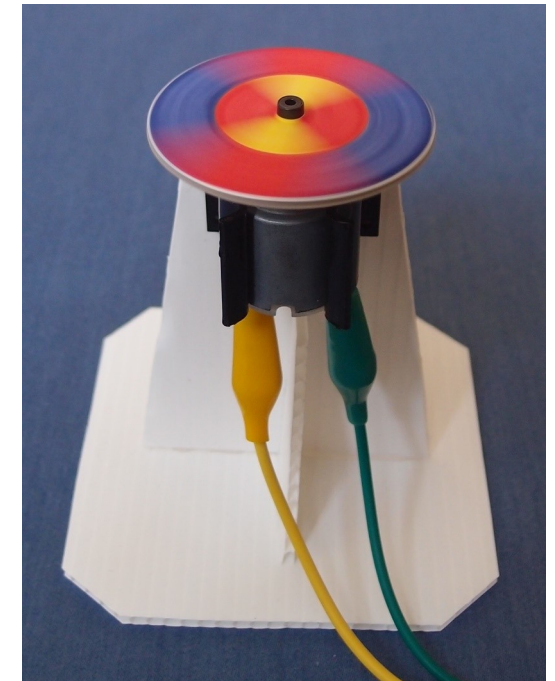
YOU WILL NEED:

Parts

- 1 Crumble controller unit
- 1 square of corrugated plastic
- 2 crocodile leads
- 1 motor and motor mount
- 1 motor pulley
- 1 card disc

Tools and consumables

- Computer
- Pencil
- Ruler
- Pair of large scissors
- Coloured felt tip pens
- Coin
- Low melt glue gun



STEP 1

Push the motor pulley onto the motor shaft with the nose pointing away from the motor. Push the card disc onto the nose of the pulley.

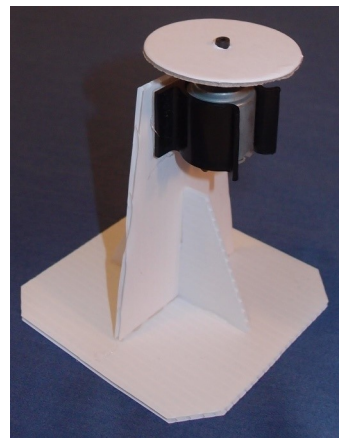


STEP 2

Design and make a stand for your coloured spinner. Sketch your design below. Make sure the card disc won't touch the stand or the ground as it rotates.

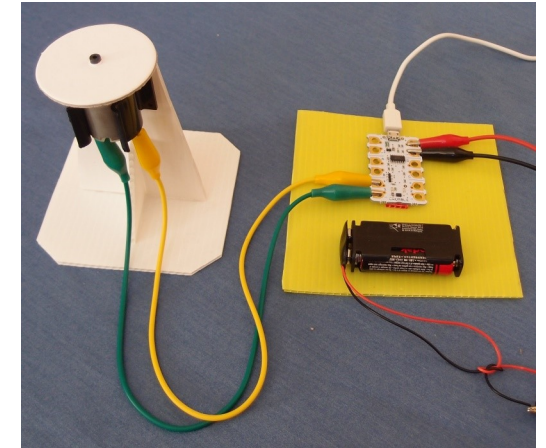
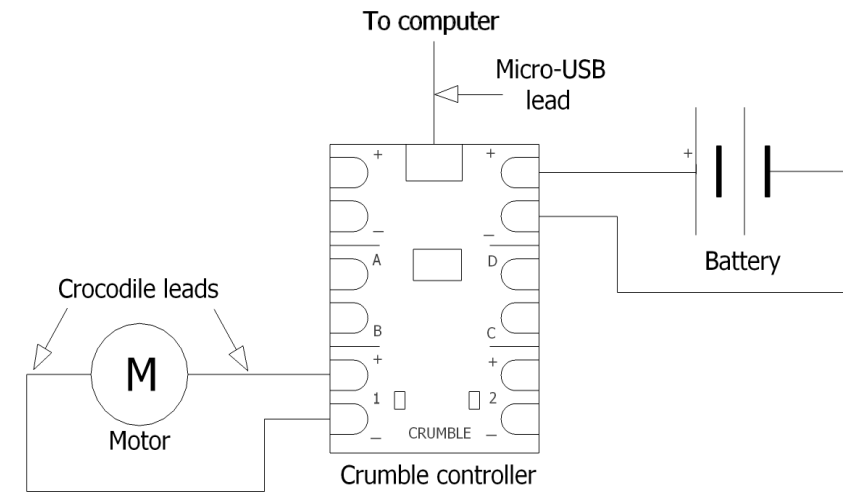
STEP 3

Remove the plastic backing from the sticky pad on your motor mount and stick the mount to your stand.



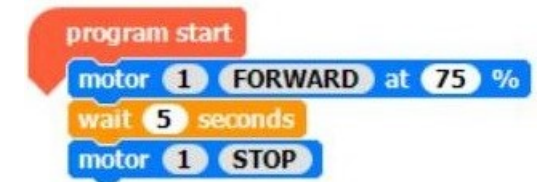
STEP 4

Connect up the following circuit. Push the battery snap connector firmly onto the battery box.



STEP 5

Select and run the 'Run motor' program you constructed during 'controller set-up'. Check the card disc rotates for a few seconds and then stops.



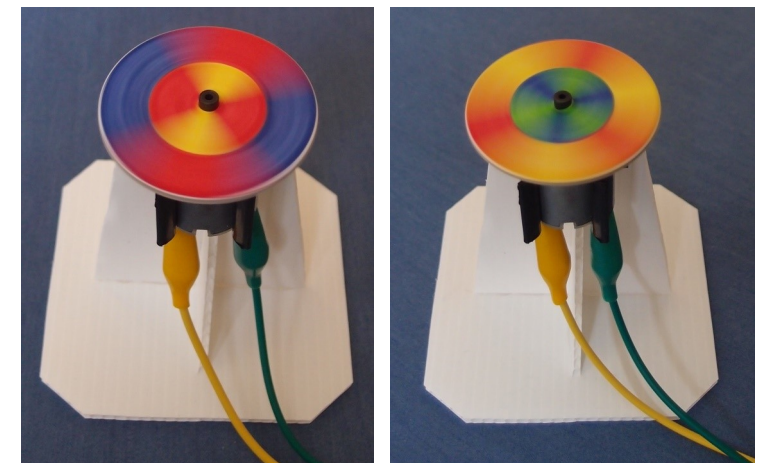
STEP 6

Remove the card disc from the motor pulley. Draw around the coin on the white side of the disc, then colour it in with alternating primary colours.



STEP 7

Place the disc back onto the motor pulley. Run the program to see what colour mixing effects you get.



N.B. If you find it difficult to come up with a design of your own then you can use this stand design as a basis:

