

Make a coloured spinner

Crumble blog 2

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Follow this step-by-step guide on how to make a coloured spinner.

Associated resources:

Crumble lesson plan

Crumble PowerPoint – coloured spinner

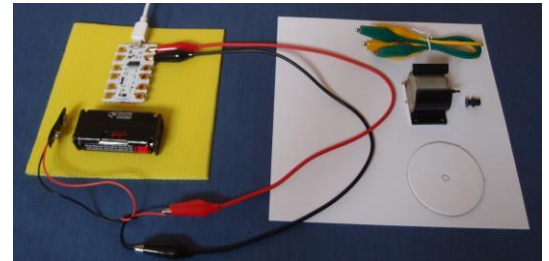
Crumble blog 1 – set up the controller

Crumble workbook 2 – coloured spinner

You will need:

Parts included in class kit

- 1 Crumble controller unit (see Crumble blog 1)
- 1 sheet of corrugated plastic 16.5 cm x 16.5 cm
- 2 crocodile leads
- 1 motor
- 1 motor mount
- 1 motor pulley
- 1 card disc



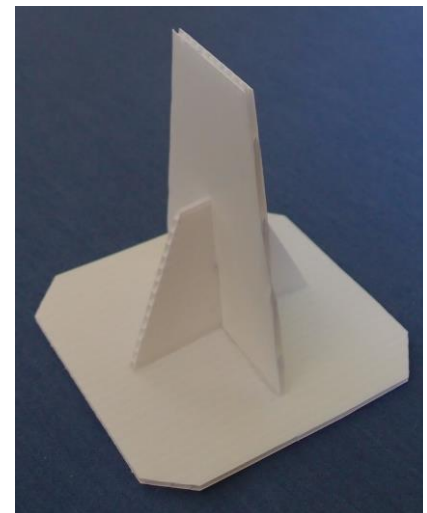
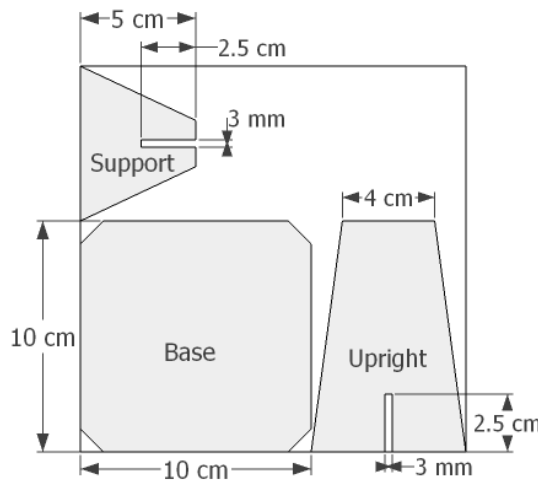
Other parts, tools and consumables

- Coloured felt tip pens
- Pencil
- Ruler
- Coin about 2.5 cm diameter e.g. 2p piece
- Large scissors
- Low melt glue gun & glue sticks
- Computer (see Crumble blog 1)



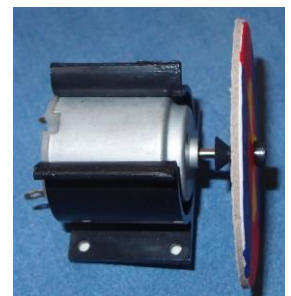
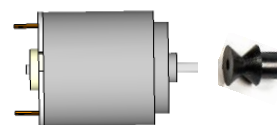
Step 1

On the sheet of corrugated plastic, use the ruler and pencil to mark out the base, upright and support as shown on the right. Cut the parts out neatly. Slot the support onto the upright (you may need to adjust the slot length to allow the bottom of the two parts to line up). Glue these to the base.



Step 2

Draw around the coin on the card disc. Colour in the disc with alternating primary colours. Push the pulley onto the motor shaft with the nose pointing away from the motor. Push the disc onto the nose of the pulley.

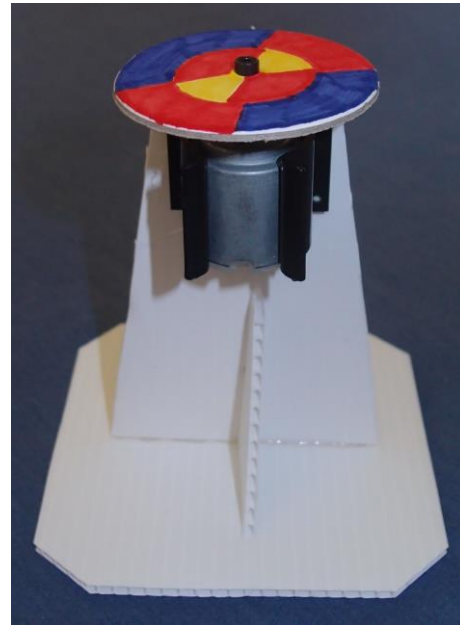
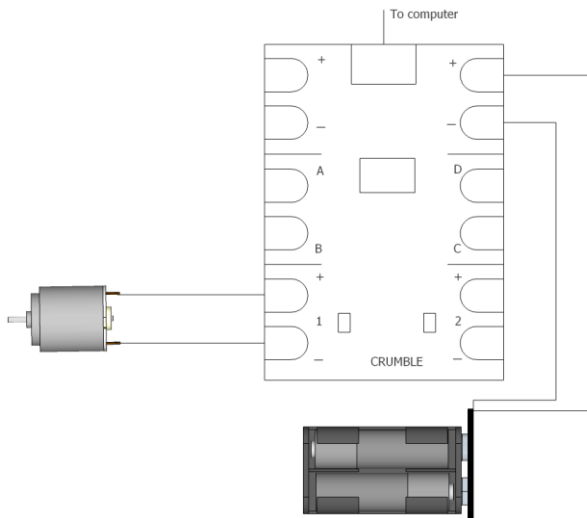


Step 3

Remove the plastic film from the bottom of the motor mount and stick it firmly onto the upright. Make sure the coloured disc isn't touching the top of the upright.

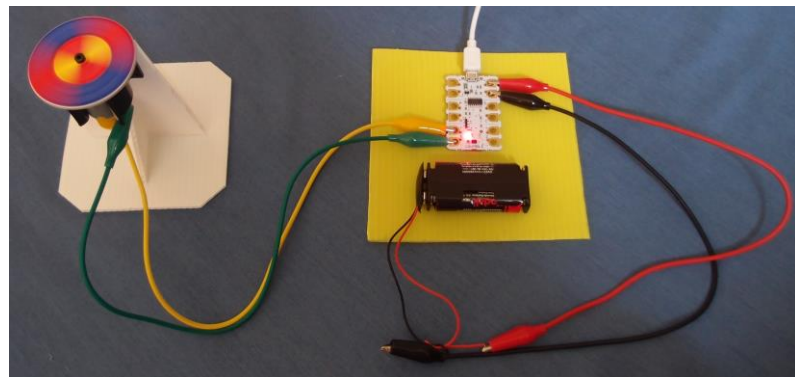
Step 4

Use the two crocodile leads to connect from the motor terminals to the Motor 1 terminals on the Crumble as shown. Clip the snap battery connector onto the battery holder. Select the file 'Run motor' from the Crumble folder. Click on the green arrow to run your program, and check the disc rotates.



Step 5

Click on '5' seconds and type in different values to change the length of time for which the disc rotates. Click on '75' and type in different values to alter the speed of rotation.



Step 6

You can try colouring in discs with different colours or patterns to see what effects you get when you rotate them.



Maxwell's disc



Benham's disc



Newton disc

Step 7

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