

BOBBING BOTS

Making worksheet

Here's what you will need to get started:

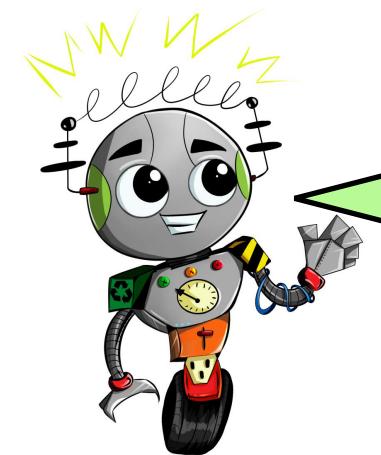
- 1 x BBC micro:bit attached to a **servo:lite** board
- 1 x strip of **NeoPixel** lights
- 3 x AAA rechargeable batteries
- 1 x elastic band
- 1 x small, clean and dry, plastic bottle with cap
- 1 x piece of string about 50cm long
- Scrap bits of soft plastic: bags, wrappers, etc.

You will also need a bradawl (or a similar sharp pointed implement) to make holes and a pair of scissors.

You can use a yoghurt pot or a disposable cup instead of a bottle.



It is easier to follow the programming worksheet to learn how to program the lights before making your jellyfish.



Plastic bottles are widely collected by local councils across the UK. You can also take them to recycling facilities.

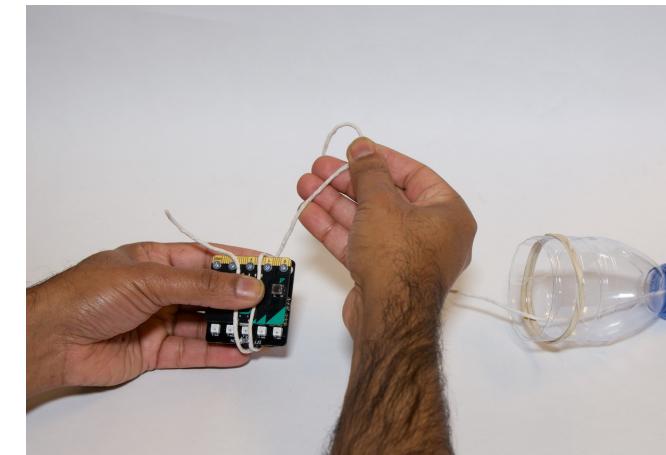
Some types of plastic films can be recycled at carrier bag collection points at the larger stores of most major supermarkets. For online shopping deliveries, many supermarkets also allow you to hand your unwanted bags back to the driver for recycling.



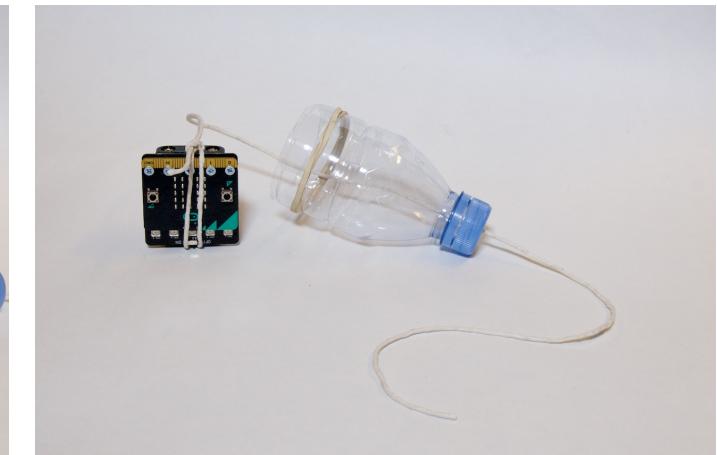
Take the top half of the bottle and wrap an elastic band around the bottom edge; this will be the body of your jellyfish.



Remove the bottle cap and thread the string through the hole in it. Replace the cap and pull most of the string through the bottle.



Holding the micro:bit upside down – with the power switch at the bottom – wrap the string around it twice, on either side of the switch.

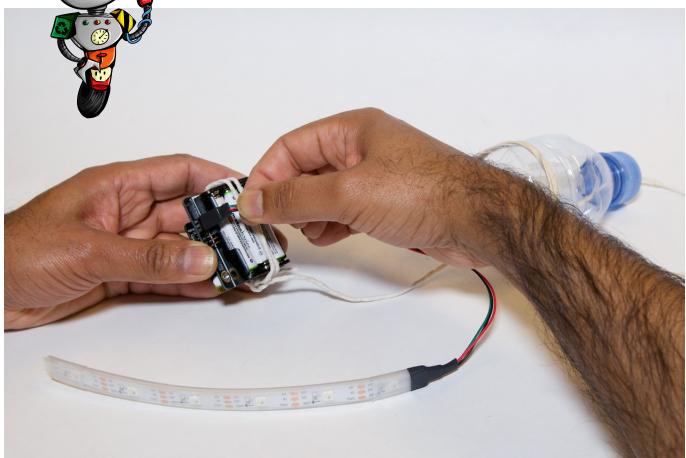
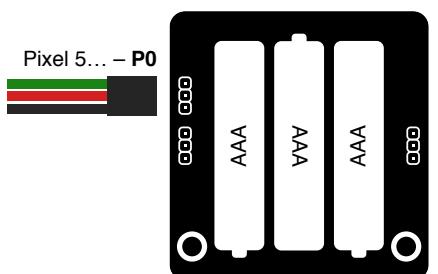


Tie a double knot opposite the switch to secure the micro:bit so that it hangs upside down.

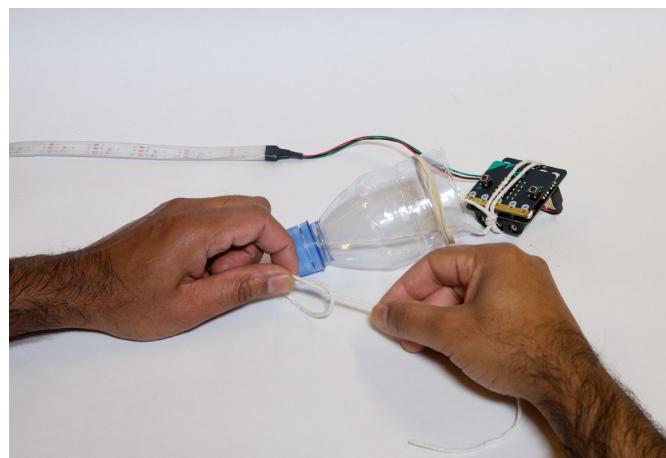


We only need the top half of the bottle. Can you think of something to make with the bottom half?

Attach the cable to the upper-left set of pins on the back of the board, with the green wire at the top:



Connect the strip of extra NeoPixel lights to the back of the board if you've not already done this.



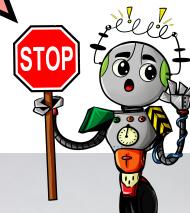
Pull any excess string through the bottle – *keep enough spare to be able to get to the micro:bit!* Tie a knot above the cap to stop it falling out.



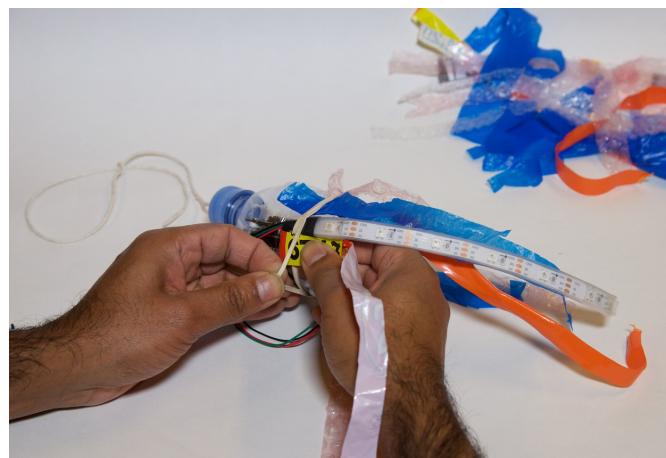
Now pull the micro:bit inside the bottle and thread the NeoPixel strip under the elastic band to make a tentacle.



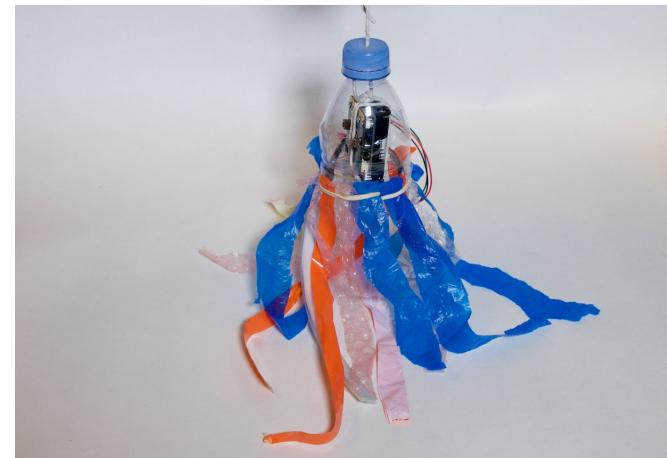
Collect a few pieces of scrap soft plastic, such as plastic bags and wrappers – bubble wrap is especially good!



Cut the plastic into long strips to make the jellyfish tentacles.



Work around the bottle pushing one end of each strip under the elastic band.



Your jellyfish is now finished! You should be able to reach the on/off switch underneath to try it.



You can also make a jellyfish with a yoghurt pot or a cup, just make a hole in the bottom for the string.

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