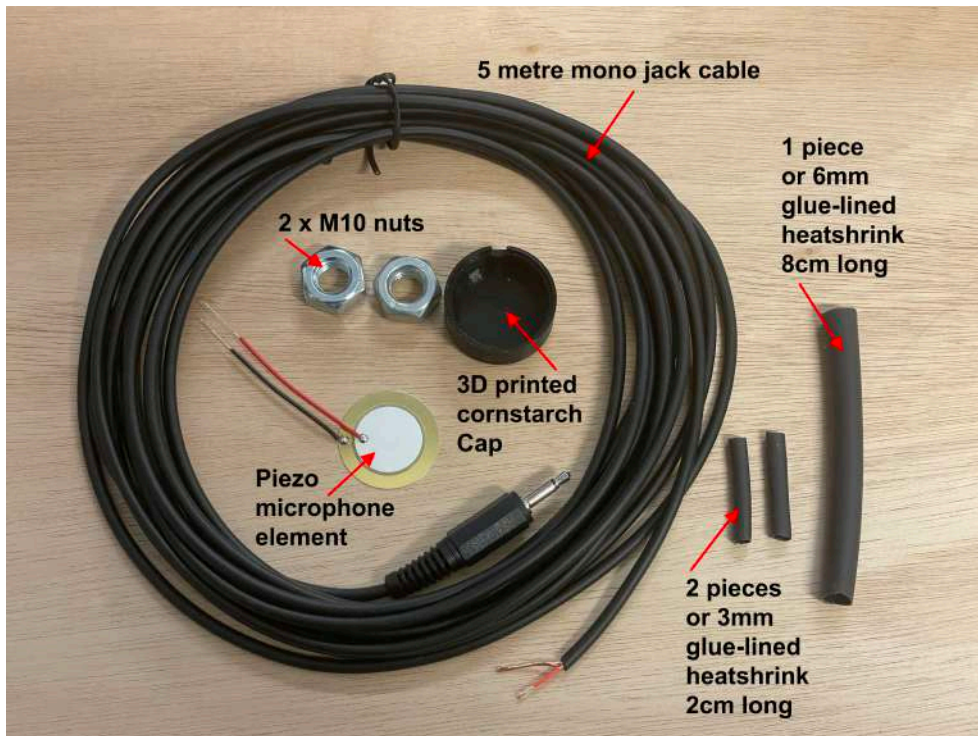


Make a hydrophone - an underwater microphone!

Check you have what you need.

A hydrophone making kit :

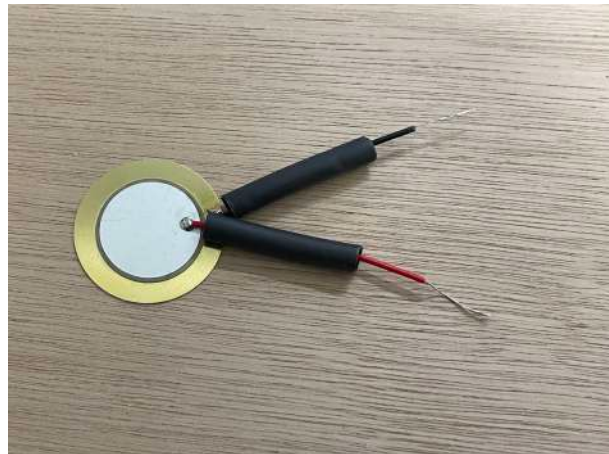


These tools and shared materials to make many hydrophones :



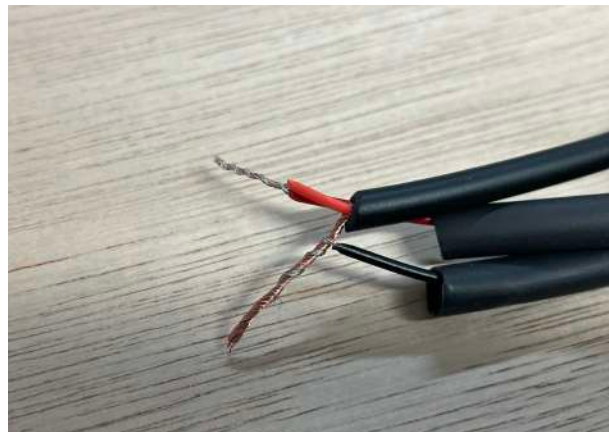
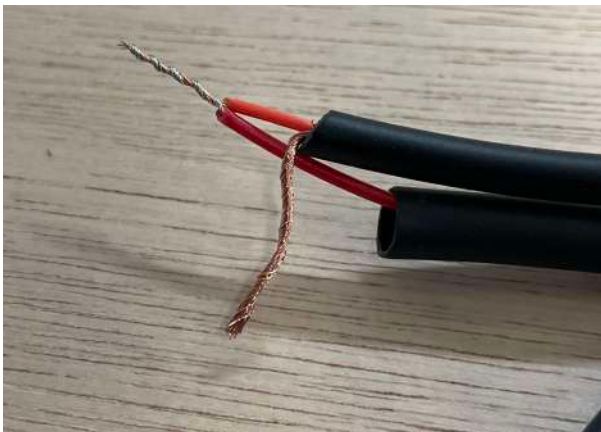
1 - Slide the M10 nuts and the longer length of heat shrink onto the end of the cable

2 - Slide the 2 shorter lengths of heatshrink onto the leads of the piezo microphone element

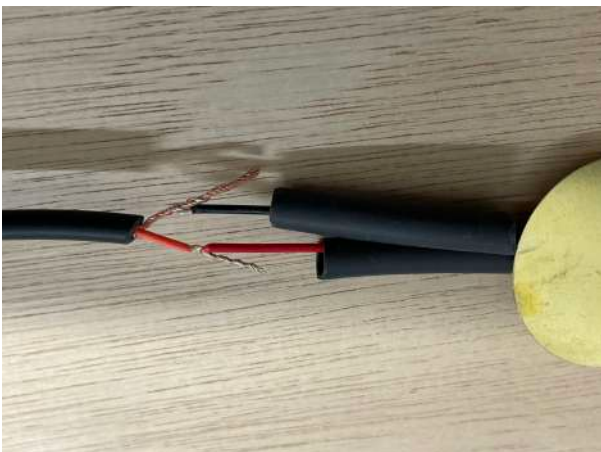


3 - Carefully twist together the red cables from the cable and the microphone element

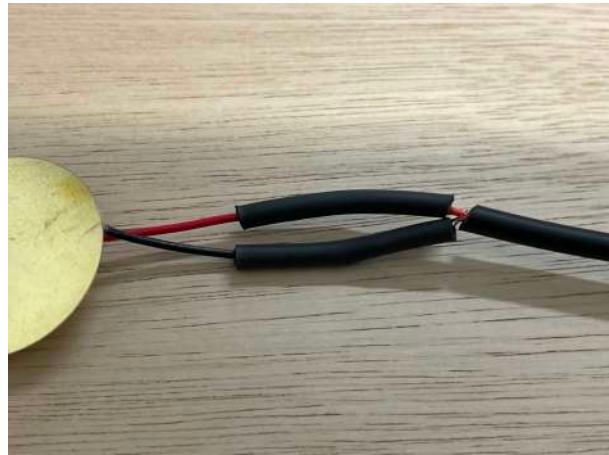
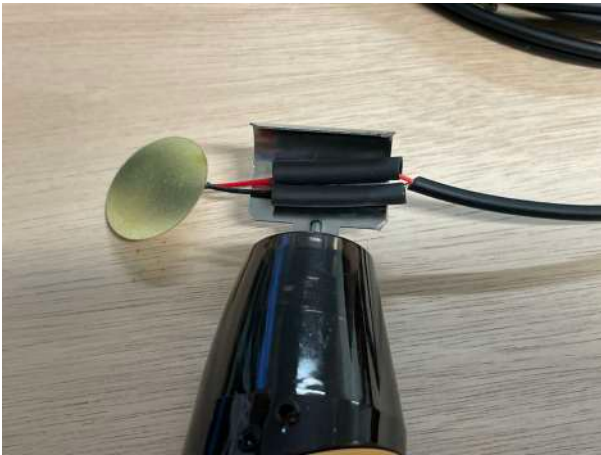
4 - Carefully twist together the copper wire from the cable with the silver wire from the black lead on the microphone element



5 - fold back the twisted cables and cover with the short lengths of heatshrink



6 - AN ADULT will use the heatgun to shrink the heatshrink tightly around the wires. (Make sure the longer, wider length of heat shrink is not too close so it doesn't shrink too at this point.)



7 - AN ADULT then moves the longer/wider piece of heatshrink over the joins, and heats until it shrinks tightly - MAKE SURE there is a small gap between the heatshrink and the microphone element.

IMPORTANT - allow to cool before moving.

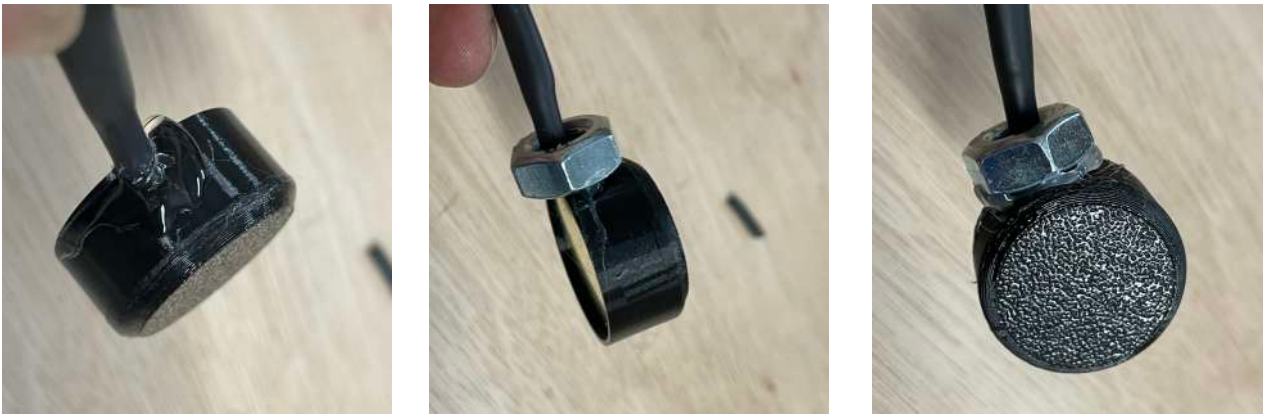
In preparing the piezo - add some epoxy resin over the cable joins to strengthen them



8 - WITH ADULT SUPERVISION - with the cool-melt glue-gun, place a small blob of warm glue into the notch in the cap - then very quickly place the microphone element into the cap - with the brass side facing up. HELPFUL HINT - place the microphone element into the cap before glueing to understand how it fits onto the rim, with the leads sitting in the notch



9 - Squeeze some warm glue where the cable joins the cap and quickly bring the first M10 nut down - carefully add some glue to fill any gaps



10 - Fill the gaps between the cable and the nut with glue, and add a bit more glue to stick the next M10 nut down on top of the first one. Fill in the gap between the cable and the second nut, then carefully fill in the gaps between the nuts. Try not to leave any gaps - this needs to be sturdy and waterproof.



11 - Place a line of glue around the edge of the cap, making sure there are no gaps between the brass and the edge of the cap. **THIS BIT IS REALLY IMPORTANT!** - make sure there are no gaps. This is making it waterproof



12- With ADULT SUPERVISION, stir the plastidip with the lollipop stick.

13 - Dip the microphone in and scrape off any excess with the lollipop stick, but make sure the whole microphone is covered.



14 - hang your HYDROPHONE up to dry, it will take about an hour.



ENJOY LISTENING TO UNDERWATER SOUNDS