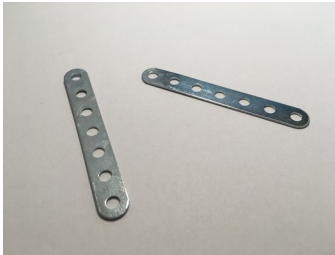


DIY: Electric engine-by Andrei Deaconeasa (Albertus-Magnus Gymnasium)

Needs:

→ a copper cable (about 90cm / 35.4 inches long)

→ 2 iron plates as shown



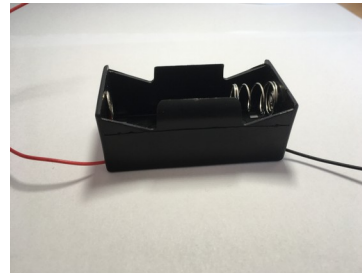
→ a neodymium magnet



→ a battery as shown



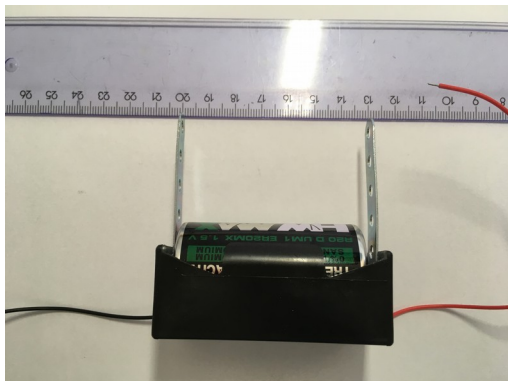
→ a battery mount



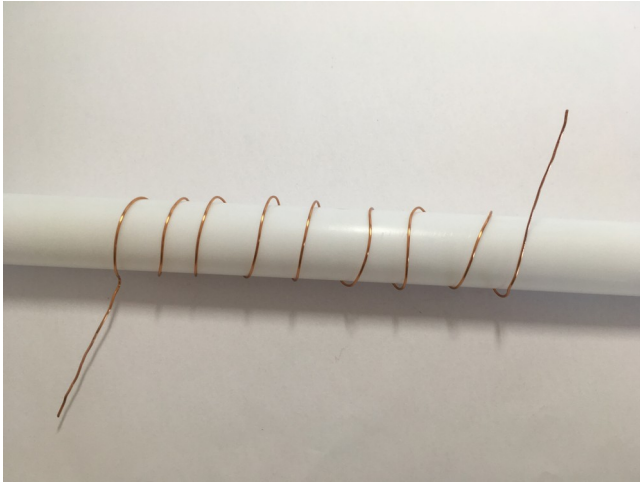
→ a knife, some yarn or tape, maybe a second person

Assembling of the engine

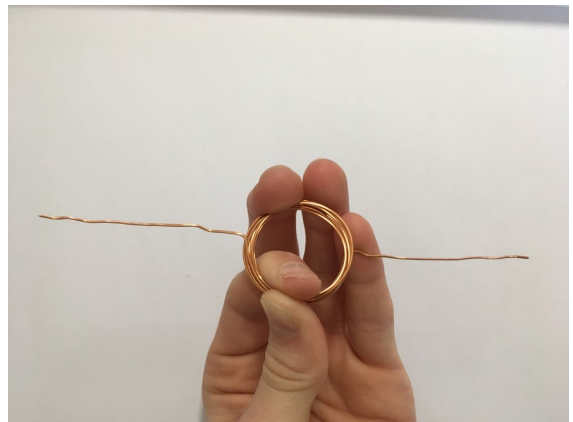
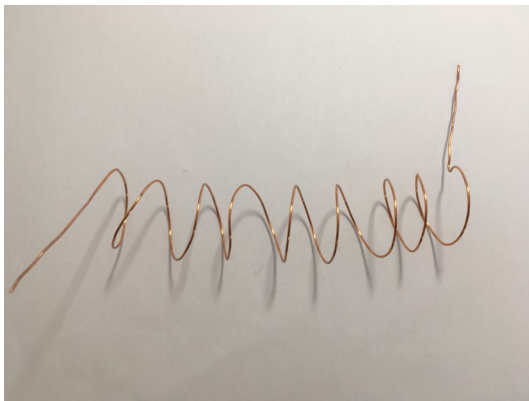
→Put the battery in the mount and squeeze the plates in between of the batteries terminals and the mount. Make sure the plates are the same height as they stick out of the mount.



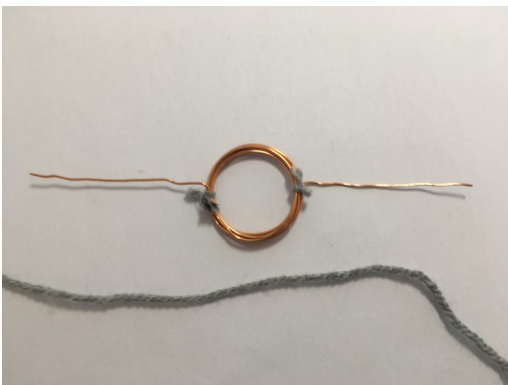
→ Get the copper cable and mark about 5cm / 1.9 inches of each end. Then get a tube or broomstick and coil up the rest of the cable (not the marked 10cm / 3.8 inches).



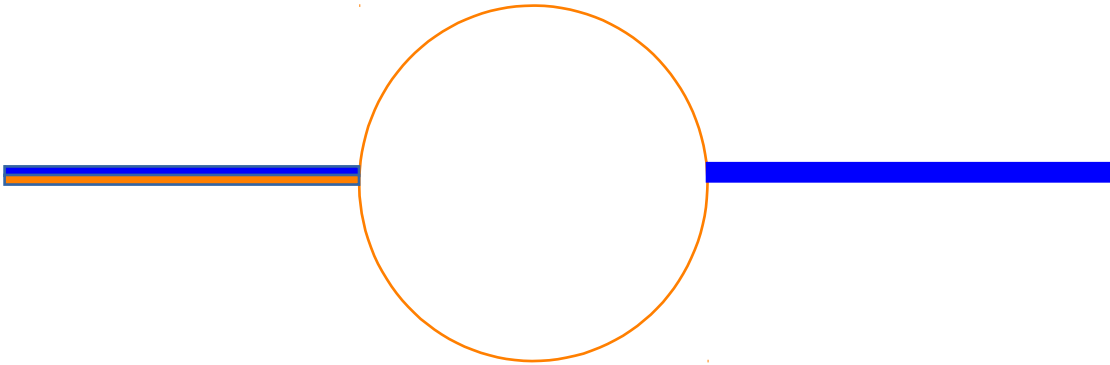
→ Get the cable off the tube or broomstick and compress it. Now you have got an inductor.



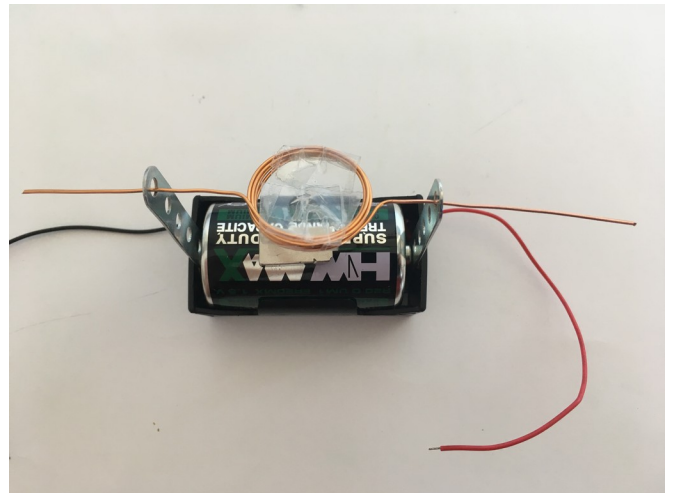
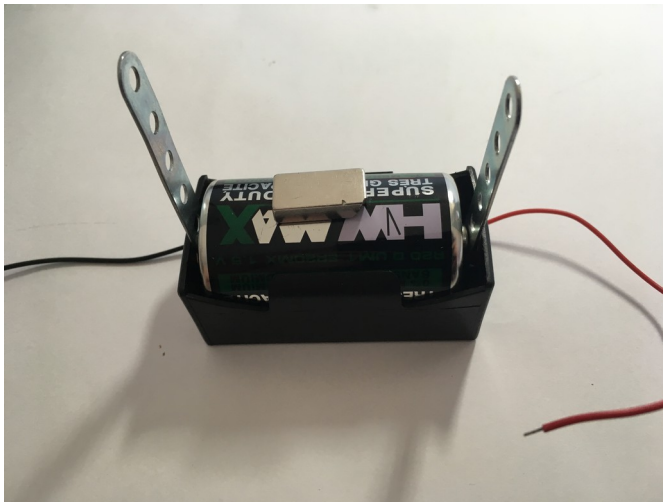
→ Now get some yarn and tie it up like shown so it does not expand again.



→ Now you need to fabricate the contacts. For this get a knife and scrape one side of the marked 5cm off completely and just half on the other. This is a really important step, if you do not do it right you will need to cut off an edge. The blue part in the following sketch is how you need to scrape off the insulation. Don't scrape off the orange part.



→ Put the neodymium magnet on top of the battery. Then you can carefully stick the inductor into the holes of the iron plates. (As you can see I used tape to put the inductor together.)



and it should spin.

Finally you can give the inductor an impulse