

Making a simple Electric Motor

Materials Required:

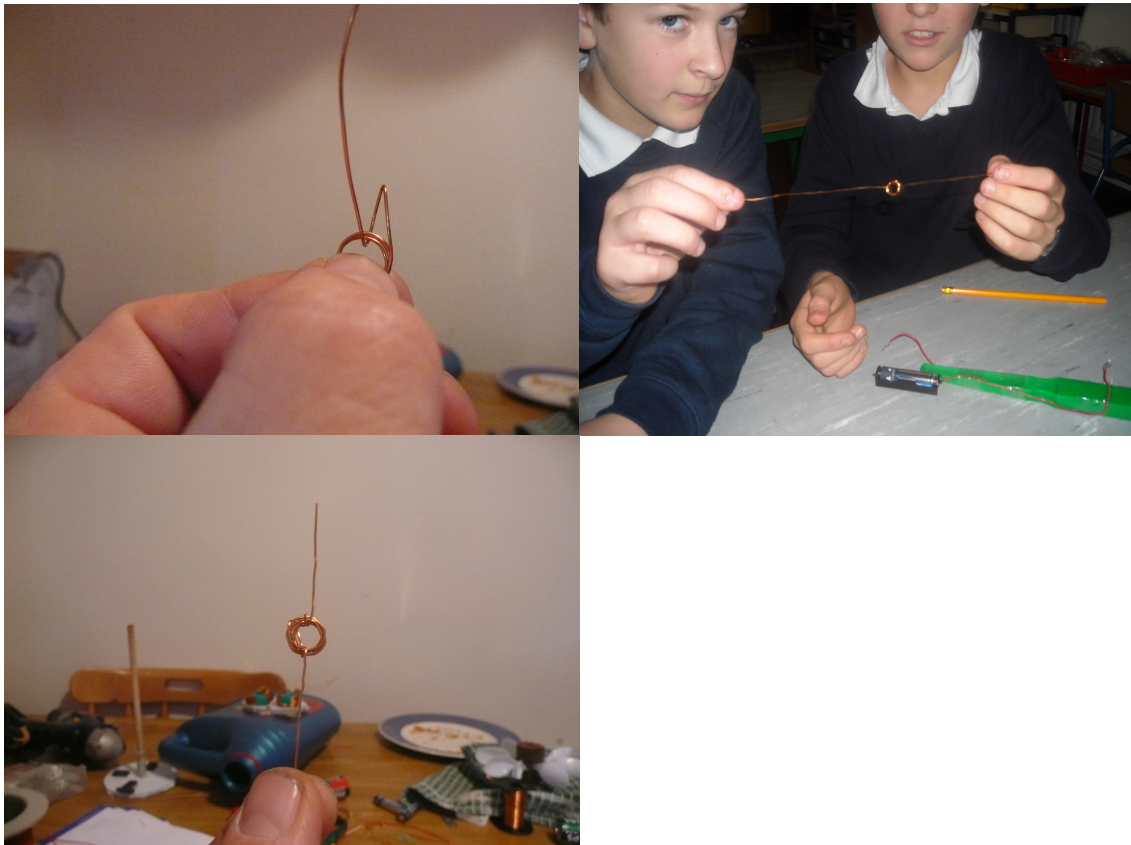
- One AA Battery
- Battery Holder
- Insulated bell wire two 15cm lengths
- Magnet
- Magnet Wire (the kind with red enamel insulation, not plastic coated) 15cm length
- Fine Sandpaper
- Pencil
- Matchstick
- Elastic band or cellotape

Instructions:

1. Starting about 4cm from the end of the wire, wrap it 4 times around the pencil. Remove the pencil (you don't need it any more). Wrap the two tails around the coil so that the coil is held together and the two tails extend perpendicular to the coil. See illustration below:

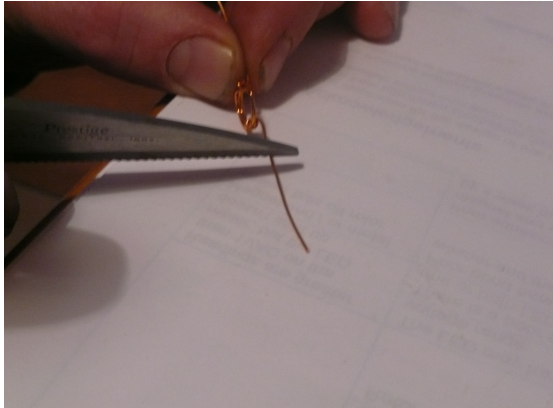


2.

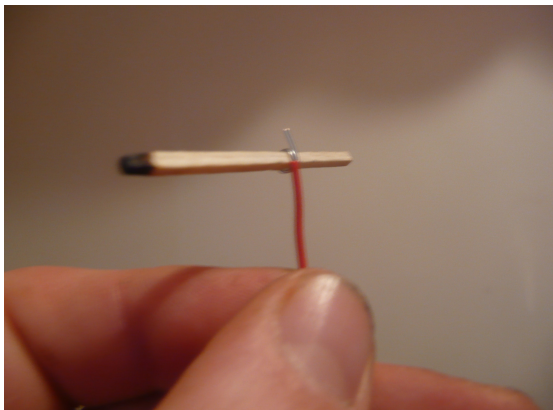


Note: Be sure to centre the two tails on either side of the coil. Balance is important.

3. On both tail's, lay the coil down flat and lightly sand off the insulation from the top half of the wire only. Leave 1cm of full insulation on the end and where the wire meets the coil.



4. Strip 2cm from each end of the lengths of bellwire, shape one end of each piece of bellwire into a loop using the matchstick



5. Use the rubber band or cellotape to hold the loop ends on each side of the magnet connect other ends of wire to the terminals of the battery:
6. Place the coil in the cradle formed by the bent ends of the bell wire. You may have to give it a gentle push to get it started, but it should begin to spin rapidly. If it doesn't spin, check to make sure that all the insulation has been removed from the wire ends. If it spins erratically, make sure that the tails on the coil are centered on the sides of the coil.

