Homopolar Motor

Ever wonder how a motor works?

Let's make one!

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Materials Needed:

- 11 inches of 18 gauge copper wire
- 1 AA Battery
- 2 neodymium magnets (0.709 in diameter)
- 1 test tube or coil maker
- 1 pair of wire cutters

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Step 1:

Place a AA battery vertically on top of two neodymium magnets with the positive end at the top and the negative touching the magnets

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Step 2:

Cut a piece a 18-gauge wire about 11 inches long, or the distance between your wrist and elbow

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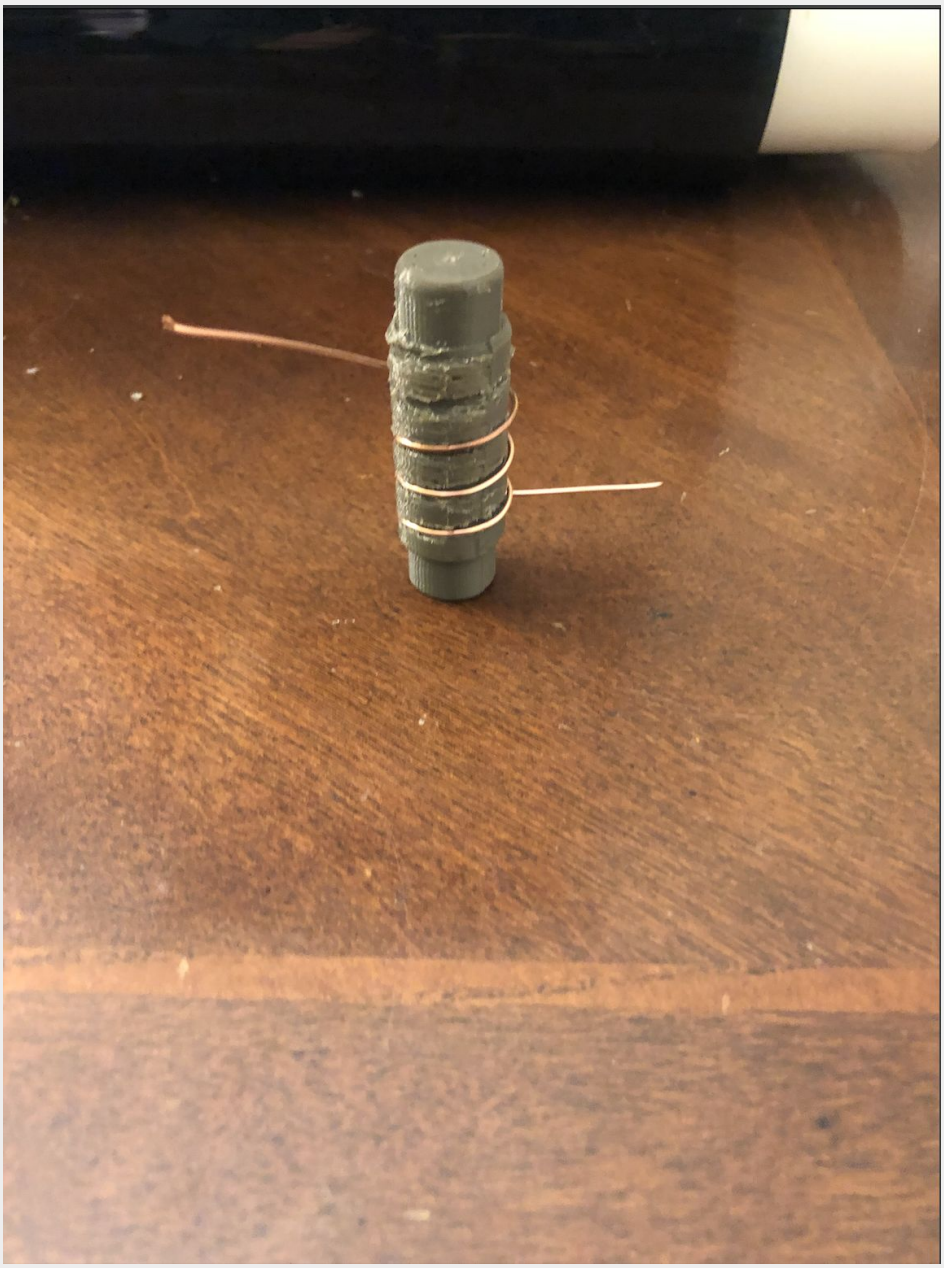
Step 3:

Use your cut wire and start to wrap it around the coil using its grooves, leaving about an inch of excess at bottom and top (you do not have to wrap the wire fully around the coil maker).



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Step 3:

Use your cut wire and start to wrap it around the test tube, leaving about an inch of excess at bottom and top (you do not have to wrap the wire fully around the test tube).

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Step 4:

Take the excess wire at the top and use the divot in the top of either the coil maker or the test tube. Adjust the wire so it's perpendicular to the divot. Position the excess wire at the bottom so it slightly touches the side of the coil maker or the test tube.

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Step 5:

Use unscrew the coil off of the coil maker/test tube to remove it from the coil maker.

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Step 6:

Place the coil maker so that wire that was touching the divot is touching the positive end of the AA battery. Watch your coil spin around the battery!