

HOMOPOLAR MOTOR DANCER

Build your own homopolar motor! A homopolar motor is a type of electric motor, specifically one that uses a direct current to power rotational movement.

SUPPLIES

- 3-in-1 combination tool, pliers or wire cutters
- 1 AA battery

• 3¹/₂" x 1/8" neodymium disc magnets

- 10" 18-gauge copper wire
- 1 thick marker (or something similar)

ACTIVITY

- 1. With adult supervision, cut 10" of wire off your copper wire spool.
- 2. Bend $\frac{1}{2}$ " of one end of the wire to a 90° angle.
- 3. Coil the rest of the wire so it will fit over the battery using a thick marker (or something similar) to get the shape. The wire is our motor.
- 4. Place the three neodymium magnets on the negative side of the AA battery.
- 5. Place the motor on top of the battery so that it touches the positive side. The round section at the bottom of the motor must be low enough to encircle the magnets!
- 6. Let it go! If properly constructed, it should start to spin.
- 7.Experiment by making different shapes with your wire—get creative!

SHARE YOUR CREATIONS WITH US!

#AZScienceCenter #GirlsInSTEM



@arizonasciencecenter



@azsciencecenter

