

CHALLENGE

06

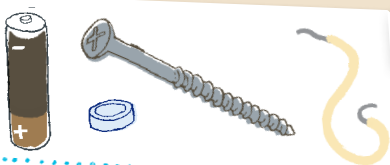
ELECTRIC MOTOR

THE BRIEF

BUILD YOUR OWN ELECTRIC MOTOR.

MATERIALS

An AA battery, a screw, a small round neodymium magnet (approx 6mm diameter) and a wire



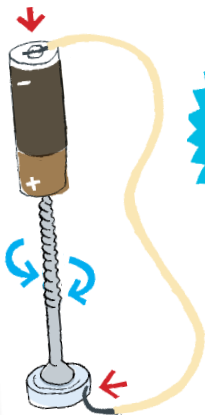
THE METHOD

Attach the magnet to the head of the screw.

Holding the battery in your hand, hang the pointy end of the screw from the positive terminal of the battery.

Hold one end of the wire to the negative terminal of the battery.

With your other hand, touch the opposite end of the wire to the head of the screw and watch it spin.

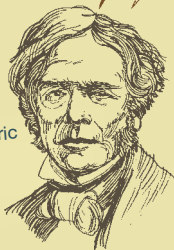


TOP TIP
What happens if you swap the battery terminals?



DESIGN ICONS

Michael Faraday built the first electric motor in 1821.



HOW DOES IT WORK?

The electric current passing through the screw when the circuit is completed by the wire is subject to a force called the Lorentz force. The force acts as a torque, which turns the screw.

Challenge designed by:
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