

Motor Effect

Electricity and magnetism combine to make this wire jump.

Try This

- Notice the large magnet. Its north pole is painted red and its south pole is painted white. A thick black wire lies between the north and south poles.
- Hold down the green button to send an electric current through the wire. The wire will jump into the air.
- Push down on the wire and feel how strongly the magnet is pushing it up.
- Let go of the button to turn off the current. Notice that the wire immediately falls.

What's Going On?

Electricity and magnetism are closely related. An electric current, like the one flowing through the wire, is made up of moving electric charges. The magnetic field of the large magnet pushes against these moving electric charges, making the wire jump.

So What?

Here, the magnetic force on the wire creates a simple jumping motion. But by arranging magnets and wires a little differently, you can make an electric motor that spins when current flows through the wires.