Electromagnets

Answers

KS3 science quick questions

This topic online

Activate 2: Electricity and magnetism; Activate 3: Electricity and magnetism | Exploring Science 9J

Q	Answer	Remember
1	electromagnet	Electro (electricity) + magnet: a magnet made by a current.
2	iron	The iron core concentrates the magnetic field.
3	it disappears	No current, no magnetism - that is the big advantage of an electromagnet.
4	stronger	Each turn adds its own bit of magnetic field.
5	increases	More current, more magnetism.
6	increase the current	Three levers: turns, current and an iron core.
7	bar magnet	One end of the coil acts as a north pole and the other as a south pole.
8	swap	Flip the current and the field flips too.
9	10 cm	The field of an electromagnet gets weaker the further you are from it.
10	compass	The compass needle lines up with the field wherever you put it.
11	off	Turn off the current and the car drops exactly where you want it.
12	no	Aluminium is not a magnetic metal - recycling centres use this to sort cans.
13	doorbell	Anything that needs a magnet you can control usually uses an electromagnet.
14	number of turns	The independent variable is the one you choose to change.
15	12	Every extra 10 turns adds 4 more clips.
16	off	No current, no magnetism - so the arm springs back, the circuit closes again and the bell keeps ringing.
17	Iron loses its magnetism as soon as the current stops, so the electromagnet can be turned off, but steel would stay magnetised.	Steel makes good permanent magnets; iron makes good temporary ones.
18	spins	The coil's field and the magnets' field push on each other, making it turn.
19	switch	Relays let a tiny, safe current control a big, dangerous one.
20	stops	The bigger the current, the stronger the pull - so too much current trips the switch and cuts the circuit.

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