



SP12 Magnetism and the motor effect

Personal learning checklist | 1 of 2

GCSE Edexcel Separate Sciences | Physics Paper 2

Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

I can	Red	Amber	Green
Magnets and fields			
Distinguish permanent and induced magnets and choose magnetic materials for appropriate uses.	☐	☐	☐
Describe pole interactions and why cutting a magnet does not isolate one pole.	☐	☐	☐
Draw bar-magnet and uniform fields, showing direction and strength through line spacing.	☐	☐	☐
Describe compass field mapping and compare directional information with iron-filing patterns.	☐	☐	☐
Explain compass alignment with Earth's magnetic field and evidence for a magnetic core.	☐	☐	☐
Current-produced fields			
Describe evidence for current-produced magnetism and circular straight-wire fields, including current and distance effects.	☐	☐	☐
Use the right-hand grip rule with conventional current, including dot and cross diagrams.	☐	☐	☐
Explain solenoid field addition, interior uniformity and the weaker external field.	☐	☐	☐
Explain solenoid strengthening and pole reversal and plan controlled safe electromagnet comparisons.	☐	☐	☐

My next revision priority _____



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I can	Red	Amber	Green
Motor effect (Higher)			
Explain the motor effect through field interaction and paired conductor-magnet forces (Higher).	☐	☐	☐
Use Fleming's left-hand rule to predict force direction and effects of reversing current or field (Higher).	☐	☐	☐
Explain perpendicular maximum force and zero force for parallel current and field (Higher).	☐	☐	☐
Force calculations (Higher)			
Calculate and rearrange magnetic force, flux density, current and perpendicular wire length with correct units (Higher).	☐	☐	☐
Electric motors			
Explain motor-coil turning forces using Fleming's left-hand rule (Higher).	☐	☐	☐
Explain split-ring commutators and brushes in a continuous d.c. motor (Higher).	☐	☐	☐
Predict motor reversal and stronger turning effects and explain energy transfers (Higher).	☐	☐	☐

My next revision priority _____