Electric and magnetic fields

International Baccalaureate · IB Diploma · Physics · HL · Vocabulary in context

Word	Example
electric charge /ɪ'lektrɪk tʃɑ:dʒ/	A rubbed balloon has an **electric charge**.
• **elementary charge** /ˌelɪ'mentəri tʃɑ:dʒ/	The **elementary charge** is 1.6×10^{-19} C. 1.6×10^{-19} C
charge is conserved	In every reaction, **charge is conserved**.
electrostatic induction	A charged rod causes **electrostatic induction** in a metal ball.
earthed /ɜ:θt/	The metal case is **earthed** for safety.
charge is quantized	**Charge is quantized**: it comes in whole numbers of electron charges.
Coulomb's law /'ku:lɒmz lɔ:/	**Coulomb's law** gives the force between two charges.
permittivity /ˌpɜ:mɪ'tɪvəti/	Water has a high **permittivity**.
electric field /ɪ'lektrɪk fi:ld/	A charged ball has an **electric field** around it.
electric field strength /ɪ'lektrɪk fi:ld streŋθ/	Near the charged ball, the **electric field strength** is 500 N/C. 500 N/C
electric field line	An **electric field line** points away from a positive charge.
edge effect	The **edge effect** makes field lines curve near the ends of the plates.

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magnetic field /mæg'netɪk fi:ld/	A magnet has a **magnetic field** around it.
magnetic field line	A **magnetic field line** goes from north to south.
right-hand grip rule /raɪt hænd grɪp ru:l/	Use the **right-hand grip rule** to find the field around a wire.
solenoid /'səʊlənɔɪd/	A **solenoid** is a long coil of wire.
electric potential energy /ɪ'lektrɪk pə'tenʃl 'enədʒi/	Two charges close together have **electric potential energy**.
electric potential /ɪ'lektrɪk pə'tenʃl/	The **electric potential** is high near a positive charge.
potential is a scalar	**Potential is a scalar**: it has no direction.
potential gradient /pə'tenʃl 'greɪdɪənt/	The **potential gradient** is the change in potential per metre.
electronvolt /ɪ'lektrɒnvəʊlt/	One **electronvolt** is a very small amount of energy.
equipotential surface /ˌi:kwɪpə'tenʃl 'sɜ:fɪs/	On an **equipotential surface**, the potential is the same everywhere.