Electric fields

A-Level Physics · Vocabulary in context

Word	Example
electric field /ɪ'lektrɪk fiːld/	A charged ball has an **electric field** around it.
force /fɔːs/	You use a **force** to push a door open.
electric field strength /ɪ'lektrɪk fiːld streŋθ/	Near the charged ball, the **electric field strength** is 500 N/C. $500\ \mathrm{N/C}$
test charge /test tʃɑːdʒ/	A small positive **test charge** feels a force in the field.
vector /'vektə/	Velocity is a **vector** because it has a direction.
electron /ɪ'lektrɒn/	An **electron** has a negative charge.
field line /fiːld laɪn/	Each **field line** shows the direction of the force.
infinity /ɪn'fɪnɪti/	Far away, at **infinity**, the field is zero.
conductor /kən'dʌktə/	Copper is a good **conductor** of electricity.
point charge /pɔɪnt tʃɑːdʒ/	Treat the small ball as a **point charge**.
dipole /'daɪpəʊl/	A **dipole** has a positive end and a negative end.
uniform field /'juːnɪfɔːm fiːld/	In a **uniform field**, the field lines are parallel and evenly spaced.
isolated /'aɪsəleɪtɪd/	The **isolated** sphere has no other charges near it.
potential gradient /pə'tenʃl 'greɪdɪənt/	The **potential gradient** is the change in potential per metre.

exercises.lol exercises.com.cn

Word	Example
potential difference /pəˈtenʃl ˈdɪfrəns/	The **potential difference** across the lamp is 6 V. 6 V
gravitational field /ˌgrævɪˈteɪʃənl fiːld/	The Moon is in the Earth's **gravitational field**.
kinetic energy /kɪˈnetɪk ˈenədʒi/	A fast car has a lot of **kinetic energy**.
parabolic /ˌpærəˈbɒlɪk/	The electron follows a **parabolic** path between the plates.
projectile /prəˈdʒektaɪl/	A thrown ball is a **projectile**.
cathode-ray tube /ˈkæθəʊd reɪ tjuːb/	An old TV uses a **cathode-ray tube**.
equilibrium /ˌiːkwɪˈlɪbrɪəm/	The book is in **equilibrium** because the forces balance.
deflection /dɪˈflekʃn/	The needle shows a large **deflection**.
Coulomb's law /ˈkuːlɒmz lɔː/	**Coulomb's law** gives the force between two charges.
permittivity of free space /ˌpɜːmɪˈtɪvəti ɒv friː speɪs/	ε_0 is the **permittivity of free space**. ε_0
tension /ˈtenʃn/	The **tension** in the rope holds up the lamp.
nucleus /ˈnjuːklɪəs/	The **nucleus** is at the centre of an atom.
resultant force /rɪˈzʌltənt fɔːs/	If the **resultant force** is zero, the speed does not change.

exercises.lol exercises.com.cn

Word	Example
centripetal force /sen'trɪpɪtl fɔːs/	The string gives the **centripetal force** to the spinning ball.
equipotential /ˌiːkwɪpə'tenʃl/	Every point on an **equipotential** has the same potential.
vector sum /'vektə sʌm/	The resultant is the **vector sum** of the two forces.
electric potential /ɪ'lektrɪk pə'tenʃl/	The **electric potential** is high near a positive charge.
scalar /'skeɪlə/	Mass is a **scalar** because it has no direction.
tangent /'tændʒənt/	Draw a **tangent** to the curve to find the gradient at one point.
negative potential gradient /'negətɪv pə'tenʃl 'greɪdɪənt/	The field strength equals the **negative potential gradient**.
electric potential energy /ɪ'lektrɪk pə'tenʃl 'enədʒi/	Two charges close together have **electric potential energy**.
bound /baʊnd/	The electron is **bound** to the atom.
ionise /'aɪənaɪz/	X-rays can **ionise** atoms. X
gravitational potential /ˌgrævɪ'teɪʃənl pə'tenʃl/	The **gravitational potential** is zero far from the Earth.

exercises.lol exercises.com.cn