Space physics

IGCSE Physics · Vocabulary in context

Word	Example
rotate /rəʊ'teɪt/	The Earth takes 24 hours to **rotate** once. 24
axis /'æksɪs/	The Earth spins on its **axis** once a day.
tilted /'tɪltɪd/	The Earth's axis is **tilted**, which gives us seasons.
Sun /sʌn/	The **Sun** is a star.
orbit /'ɔːbɪt/	The Moon's **orbit** takes about 27 days. 27
seasons /'siːznz/	The **seasons** are caused by the Earth's tilt.
Moon /muːn/	The **Moon** goes round the Earth about once a month.
phases /'feɪzɪz/	The Moon's **phases** change from new moon to full moon.
circumference /sɜː'kʌmfrəns/	The **circumference** of the wheel is 2 m. 2 m
orbital speed /'ɔːbɪtl spiːd/	A planet's **orbital speed** is higher when it is closer to the Sun.
period /'pɪərɪəd/	The **period** of the wave is 0.02 s. 0.02 s
Solar System /'səʊlə 'sɪstəm/	The **Solar System** has eight planets.
planet /'plænɪt/	Earth is a **planet** that orbits the Sun.
rocky /'rɒki/	Mars is a **rocky** planet.

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gaseous /'geɪsɪəs/	Jupiter is a **gaseous** planet with no solid surface.
gas /gæs/	In a **gas**, the particles are far apart and move quickly.
gas giant /gæs 'dʒaɪənt/	Jupiter is a **gas giant**.
ice giant /aɪs 'dʒaɪənt/	Neptune is an **ice giant**.
dwarf planet /dwɔːf 'plænɪt/	Pluto is a **dwarf planet**.
asteroid /'æstərɔɪd/	An **asteroid** is a small rock that orbits the Sun.
satellite /'sætəlaɪt/	The **satellite** goes round the Earth.
comet /'kɒmɪt/	A **comet** has a bright tail near the Sun.
gravity /'grævɪti/	**Gravity** keeps the Moon in orbit.
gravitational field strength /ˌgrævɪ'teɪʃənl fiːld streŋθ/	The **gravitational field strength** on Earth is 9.81 N/kg. 9.81 N/kg
ellipse /ɪ'lɪps/	This **ellipse** is wider than it is tall.
conservation of energy /ˌkɒnsə'veɪʃn ɒv 'enədʒi/	**Conservation of energy** means energy is never made or destroyed.
energy /'enədʒi/	Food gives your body the **energy** it needs to move.
gravitational potential energy /ˌgrævɪ'teɪʃənl pə'tenʃl 'enədʒi/	A book on a high shelf has more **gravitational potential energy**.
kinetic energy /kɪ'netɪk 'enədʒi/	A fast car has a lot of **kinetic energy**.

Word	Example
dust /dʌst/	The planets formed from gas and **dust**.
element /ˈelɪmənt/	Each **element** of the array holds one value.
accretion /əˈkreʃn/	**Accretion** builds planets as small pieces join together.
accretion disc /əˈkreʃn dɪsk/	The young Sun was surrounded by an **accretion disc**.
star /stɑː/	The Sun is a **star**.
hydrogen /ˈhaɪdrədʒn/	Water contains **hydrogen** and oxygen.
helium /ˈhiːliəm/	An alpha particle is a **helium** nucleus. α
ultraviolet /ˌʊltrəˈvaɪəlɪt/	**Ultraviolet** light from the Sun can burn your skin.
electromagnetic spectrum /ɪˌlektrəʊməgˈnetɪk ˈspektrəm/	Radio waves and X-rays are both in the **electromagnetic spectrum**. X
nuclear reaction /ˈnjuːklɪə rɪˈækʃn/	A **nuclear reaction** changes one nucleus into another.
nuclear fusion /ˈnjuːklɪə ˈfjuːʒn/	**Nuclear fusion** powers the Sun.
galaxy /ˈgæləksi/	Our **galaxy** is the Milky Way.
Milky Way /ˈmɪlki weɪ/	Our Sun is one star in the **Milky Way**.
light-year /laɪt jɪə/	A **light-year** is the distance light travels in a year.
diameter /daɪˈæmɪtə/	Measure the **diameter** of the wire with a micrometer.
Universe /ˈjuːnɪvɜːs/	The **Universe** is about 13.8 billion years old. 13.8 billion

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interstellar cloud /ˌɪntəˈstelə klaʊd/	Stars form inside an **interstellar cloud** of gas and dust.
protostar /ˈprəʊtəʊstɑː/	A **protostar** is a young star that is still forming.
stable /ˈsteɪbl/	A **stable** sort keeps equal items in the same order.
fuel /ˈfjuːəl/	Hydrogen is the **fuel** for most stars.
red giant /red ˈdʒaɪənt/	The Sun will become a **red giant**.
nebula /ˈnebjʊlə/	New stars form inside a **nebula**.
white dwarf /waɪt dwɔːf/	A **white dwarf** is about the size of the Earth.
red supergiant /red ˈsuːpədʒaɪənt/	A **red supergiant** may end as a supernova.
supernova /ˌsuːpəˈnəʊvə/	A **supernova** can be brighter than a whole galaxy.
neutron star /ˈnjuːtrɒn stɑː/	A **neutron star** is very small and very dense.
black hole /blæk həʊl/	Not even light can escape from a **black hole**.
receding /rɪˈsiːdɪŋ/	Distant galaxies are **receding** from us.
wavelength /ˈweɪvleŋθ/	The **wavelength** is the distance from one crest to the next.
redshift /ˈredʃɪft/	The **redshift** shows the galaxy is moving away.
expanding /ekˈspændɪŋ/	The universe is **expanding**.
Big Bang /bɪg bæŋ/	The universe began with the **Big Bang**.

Word	Example
microwave /ˈmaɪkrəʊweɪv/	A **microwave** can carry a signal to a satellite.
radiation /ˌreɪdɪˈeɪʃn/	**Radiation** from the source can damage cells.
cosmic microwave background radiation /ˈkɒzmɪk ˈmaɪkrəʊweɪv ˈbækgraʊnd ˌreɪdɪˈeɪʃn/	The **cosmic microwave background radiation** comes from the early universe.
Hubble constant /ˈhʌbl ˈkɒnstənt/	The **Hubble constant** links a galaxy's speed to its distance.

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