Definition questions want the syllabus wording, not your own words. Each one below is written the way a mark scheme accepts it. Learn the whole sentence – the second half is usually the second mark. 定义题要求用大纲的表述，整句都要背。

Motion, forces and energy

Speed 速率 – distance travelled per unit time

Velocity 速度 – speed in a given direction

Acceleration 加速度 – change in velocity per unit time

Scalar 标量 – a quantity that has magnitude (size) only

Vector 矢量 – a quantity that has magnitude and direction

Mass 质量 – a measure of the quantity of matter in an object at rest

Weight 重力 – the gravitational force on an object that has mass

Density 密度 – mass per unit volume

Resultant force 合力 – the single force that has the same effect as all the forces acting on the object

Newton's third law 牛顿第三定律 – when object A exerts a force on object B, B exerts an equal and opposite force on A

Moment of a force 力矩 – force times the perpendicular distance from the pivot

Principle of moments 力矩原理 – for an object in equilibrium, the total clockwise moment about a point equals the total anticlockwise moment about that point

Centre of gravity 重心 – the point at which the whole weight of the object may be considered to act

Momentum 动量 – mass times velocity

Work done 功 – force times distance moved in the direction of the force

Power 功率 – work done per unit time, or energy transferred per unit time

Efficiency 效率 – useful energy output divided by total energy input, usually as a percentage

Principle of conservation of energy 能量守恒 – energy cannot be created or destroyed, only transferred from one store to another

Pressure 压强 – force per unit area

Thermal physics

Brownian motion 布朗运动 – the random movement of small particles suspended in a fluid, caused by collisions with fast-moving molecules

Internal energy 内能 – the total energy of the molecules of a substance – the kinetic energy of their motion plus the potential energy of their separation

Temperature 温度 – a measure of the average kinetic energy of the molecules

Specific heat capacity 比热容 – the energy needed to raise the temperature of 1 kg of a substance by 1 °C

Melting / boiling point 熔点与沸点 – the temperature at which a solid changes to a liquid, or a liquid changes to a gas, at constant temperature

Evaporation 蒸发 – the escape of the more energetic molecules from the surface of a liquid, which cools the liquid left behind

Conduction 热传导 – the transfer of thermal energy through a substance without the substance itself moving

Convection 对流 – the transfer of thermal energy by the movement of a heated fluid, which is less dense and rises

Thermal radiation 热辐射 – the transfer of energy by infrared waves, which needs no medium

Waves

Wavefront 波前 – a line joining points on a wave that are in phase

Amplitude 振幅 – the maximum distance a point moves from its undisturbed position

Wavelength 波长 – the distance between two adjacent points in phase, for example crest to crest

Frequency 频率 – the number of waves passing a point per second

Transverse wave 横波 – a wave in which the vibrations are at right angles to the direction of travel

Longitudinal wave 纵波 – a wave in which the vibrations are along the direction of travel

Reflection 反射 – the bouncing back of a wave at a surface, with the angle of incidence equal to the angle of reflection

Refraction 折射 – the change in direction of a wave when its speed changes as it passes from one medium to another

Critical angle 临界角 – the angle of incidence in the denser medium for which the angle of refraction is 90°

Total internal reflection 全反射 – when light travelling in a denser medium meets the boundary at an angle greater than the critical angle, all of it is reflected

Refractive index 折射率 – the ratio of the speed of light in a vacuum to its speed in the medium, or sin i divided by sin r

Focal length 焦距 – the distance from the centre of a lens to its principal focus

Electricity and magnetism

Electric current 电流 – the charge passing a point per unit time

Potential difference 电势差 – the work done by a unit charge passing from one point to another

Electromotive force 电动势 – the electrical work done by a source in moving a unit charge around a complete circuit

Resistance 电阻 – potential difference divided by current

Ohm's law 欧姆定律 – for a metallic conductor at constant temperature, the current is proportional to the potential difference

Series circuit 串联电路 – components connected one after another, so the current is the same everywhere and the p.d.s add

Parallel circuit 并联电路 – components connected across each other, so the p.d. is the same across each and the currents add

Magnetic field 磁场 – a region in which a magnetic pole experiences a force

Electromagnetic induction 电磁感应 – the production of an e.m.f. when a conductor cuts magnetic field lines, or when the field through a coil changes

Transformer 变压器 – a device that changes the voltage of an alternating supply, in the ratio of the numbers of turns on its two coils

Nuclear and space physics

Nucleon number / proton number 核子数与质子数 – the total number of protons and neutrons in a nucleus; the number of protons in a nucleus

Isotope 同位素 – atoms of the same element with the same number of protons but different numbers of neutrons

Background radiation 本底辐射 – the ionising radiation always present from natural and man-made sources, which must be subtracted from a count rate

Radioactive decay 放射性衰变 – the spontaneous and random breakdown of an unstable nucleus, emitting radiation

Half-life 半衰期 – the time taken for half the nuclei of a sample to decay, or for the count rate to fall to half its value

Ionising radiation 电离辐射 – radiation that removes electrons from atoms, forming ions – alpha ionises most, gamma least

Redshift 红移 – the increase in the observed wavelength of light from a galaxy moving away from us

Hubble constant 哈勃常数 – the ratio of the speed at which a galaxy recedes to its distance from Earth; its reciprocal estimates the age of the Universe