

What is the unit of speed?	m/s
What is the unit of acceleration?	m/s^2
What is thinking distance?	DISTANCE travelled whilst reacting.
What is braking distance?	Distance travelled after hitting brakes.
How do you calculate stopping distance?	Thinking distance + braking distance.
What factors affect thinking distance?	Alcohol; Drugs; Tiredness.
What factors affect braking distance?	Worn tyres; Ice/Snow; Condition of brakes.
What factors affect both thinking and braking distance?	Speed
What is Newton's first law?	Any body will either remain at rest or at a constant velocity unless a resultant force acts upon it.
What is Newton's second law?	Resultant Force = mass x acceleration
What is Newton's third law?	If a body A exerts a force on body B then body B exerts an equal and opposite force on body A.
What is inertia?	The ability of an object to resist a change in motion (things with larger masses have more inertia).
What is 'g'?	Gravitational field strength. It is 10N/kg on Earth.
What is weight?	The force on an object due to gravity.
What is the unit of force?	newtons (N)

What is mass?	The amount of matter in an object.
Why does an object reach terminal speed?	The air resistance balances out the weight.
What is work done?	Energy transferred OR force x distance
What is the unit of work done?	joules (J) OR Nm
What is the energy a body has due to its motion?	Kinetic energy
What is the energy a body has due to its position?	Gravitational Potential Energy
If an object obeys Hooke's Law, what happens when a force is applied?	Force is proportional to extension
How can energy efficiency of a car be improved?	Streamline it; Have correctly inflated tyres; Stop-start systems; making them lighter.
What is the job of a air bag/crumple zone (in terms of energy)?	Increase the distance over which the energy is transferred so reducing the force.
What is the job of a air bag/crumple zone (in terms of momentum)?	The same change in momentum happens over a longer time so there is decreased deceleration as the force decreases.
What is the order of the planets (in terms of increasing distance from the Sun)?	Mercury-Venus-Earth-Mars-Jupiter-Saturn-Uranus-Neptune
Which planets are rocky?	Mercury-Venus-Earth-Mars
Which planets are gaseous?	Jupiter-Saturn-Uranus-Neptune
Where is the asteroid belt and what does it contain?	Between Mars and Jupiter. Many rocky asteroids and dwarf planets.
How do comets orbit?	Highly elliptical orbits.

True or False: Most planets have moon orbiting around them.	TRUE
What is a planetary system?	It comprises a star and all the objects which orbit it.
What is a galaxy?	A large collection of stars
What is an A.U.?	An astronomical unit. The mean distance from the Sun to the Earth.
What is a light year?	The DISTANCE light travels in a year.
What is the process of generating heat and light in a star called?	Nuclear fusion.
What is the life cycle of a low mass star?	Protostar-Main sequence-Red Giant-White dwarf-Brown dwarf
What is the life cycle of a high mass star?	Protostar-Main sequence- Red Supergiant-Supernova-Neutron Star OR Black hole
Describe how main sequence stars stay stable.	Radiation pressure = Gravitational force.
What happens when a star runs short of Hydrogen?	It will fuse helium and then other increasingly heavier elements to maintain fusion.
Why will the star swell when it runs out of Hydrogen?	Gas and Radiation pressure increases as heavier elements are fused.
What happens when fusion stops?	Gravitational force exceeds the gas and radiation pressure and the star shrinks.
What do Supernova create?	Elements heavier than Iron.
How did the solar system begin?	Gravitational forces caused matter to get closer creating the Sun and the planets.
What is meant by the term, isotope?	Elements with equal numbers of protons but differing numbers of neutrons.

Why do radioactive emissions occur?	An imbalance between the numbers of protons and neutrons.
Why is waste from nuclear power stations and nuclear medicine difficult to store?	They are radioactive substances with long half-lives.
How can you describe the process of radioactive decay?	Random
When doing experimental work with radiation, how can the random nature be accounted for?	Repeat reading; measurements made over a long period; small variations to be expected as it is random.
What is the order of penetrating power for the types of radiation (high to low)?	Gamma-Beta-Alpha
What is the order of ionising power for the types of radiation (high to low)?	Alpha-Beta-Gamma
Describe a alpha particle.	Helium NUCLEUS / Two protons & two neutrons.
Describe a beta particle.	High energy electron.
Describe gamma radiation.	High energy electromagnetic wave.
Name some natural sources of radiation.	Cosmic rays; Radon gas; Rocks/buildings.
Name some man made sources of radiation.	Medical uses; Nuclear power stations.
How does background radiation change at higher altitudes.	There will be more cosmic rays.
Why does the level of Radon gas change vary?	Radon comes from rocks, especially granite, so it depends on the amount of granite in the area.
How can householders be protected from Radon?	Good ventilation.
What is the half life of a radioactive substance?	The time taken for the activity/number of radioactive nuclei to reduce by half.