

Year 8 Physics Progression Grid

Outcomes	Fluids	Light	Energy Transfers	Earth and Space
Emerging	I can draw particle diagrams to represent a solid, liquid and gas.	I can state that white light is a mixture of colours. I can state the primary colours and secondary colours of light.	I can state that the effect of a thermal transfer is that one object increases in temperature whilst the other decreases in temperature.	I can list some of the planets in the solar system.
Developing	I can state what is meant by gas pressure and recall some of its effects.	I can state that light waves are able to travel through a vacuum. I can state that in a vacuum, light waves have a maximum speed, the speed of light. I can state that light waves are transverse.	I can state that thermal energy is transferred from hotter objects to colder objects.	I can explain that our Sun is a star, and that there are other stars and solar systems in our galaxy and other galaxies in the Universe.
Secure	I can explain the following physical changes in terms of conservation of material, mass and reversibility: melting, freezing, evaporation, sublimation, condensation and dissolving.	I can explain that the movement of light is measured in light years, and that this is how far light travels in one year. I can describe that this is a measurement of distance and not time.	I can state that thermal energy is transferred by conduction in solids, convection in liquids and radiation in vacuums and transparent objects.	I can define a day, a lunar month and a year with reference to Earth, and I can state how long each of these are on Earth. I can explain the difference between a calendar and a lunar month.
Advanced	I can explain what is meant by diffusion in gases and liquids in terms of concentration differences.	I can explain how paints of different colours can be made by colour subtraction. I can compare refraction and dispersion.	I can evaluate ways of increasing or decreasing energy transfer by conduction, convection, radiation and evaporation	I can calculate weight when given mass and gravitational field strength.
Excelling	I can explain how surface area affects drag forces.	I can describe the causes and effects of long-sight and short-sight and how different types of lens are used to correct these defects.	I can explain why the efficiency can never be greater than 100%.	I can describe some ways in which astronomers can detect planets orbiting stars other than the Sun.