



Content - Big ideas

KS3 - P2.3 Motion & Pressure

Big Question: Why are aircraft cabins pressurised?

Learning Outcome:

State the equation for speed. Describe simply what a distance–time graph shows. State two things that can affect gas pressure. State simply what happens to pressure with depth. State the equation of pressure. State the law of moments.

KS4 - CP04 Waves

Big Question: Why is there no sound in Space?

Learning Outcome: Waves transfer energy and information. How to describe the characteristics of waves. How the speed of a wave is related to its frequency and wavelength. How the speed of a wave is related to the time it takes to travel a certain distance. How waves are refracted at boundaries between different materials.

KS4 - CP05 Light & the Electromagnetic Spectrum

Big Question: How do microwaves and night-vision goggles work?

Learning Outcome: Light is part of a family of waves called the electromagnetic spectrum, which all have some properties in common. What are some uses of the waves in different parts of the electromagnetic spectrum? What are some of the harmful effects of the waves in different parts of the electromagnetic spectrum?

Prior learning

- P1.1 – Forces
- P1.2 – Sound
- P1.3 – Light

Global/IOM/Subject Links

Global & IOM links:

- Road safety, Music Industry, Photography, AI Art

Subject:

- Motion → MATHS
- Waves → MUSIC
- Light → ART

Subject specific skills development

Edexcel CORE Practical Skills:

- Use of appropriate apparatus to make and record a range of measurements accurately, including length, area, mass time, volume and temperature.
- Use of such measurements to determine densities of solid and liquid objects.
- Making observations of waves in fluids and solids to identify the suitability of apparatus to measure speed/frequency/wavelength.
- Making observations of the effects of the interaction of electromagnetic waves with matter.