

## KS4 Curriculum Requirements

### Forces and Motion

- Forces and fields: electrostatic, magnetic, gravity.
- Acceleration caused by forces; Newton's First Law.

### Wave Motion

- Amplitude, wavelength, frequency, relating velocity to frequency and wavelength.
- Transverse and longitudinal waves.
- Electromagnetic waves, velocity in a vacuum; wavelengths and frequencies from radio to gamma-rays.

### Atomic Structure

- Ionisation; absorption or emission of radiation related to changes in electron orbits.

### Space Physics and Astronomy

- The main features of the solar system.
- Exoplanets: methods of detection, goldilocks (habitable) zone, Drake equation and life in our galaxy
- The Hertzsprung-Russell diagram.
- Stages of stellar evolution.