Curriculum Road Map
KS5- A-LEVEL PHYSICS

EXAMS

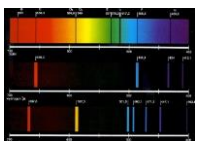
Your journey continues in university, apprenticeships or work.

The Big Bang

Cosmology

Evolution of the Universe

Astronomical Distances



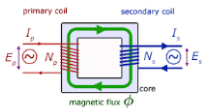
Doppler Effect

Energy Levels and Spectra

HR Diagram

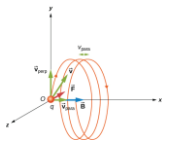
Life Cycle of Stars

Analysing Stars

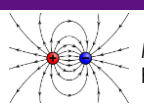


Transformers

EM Induction

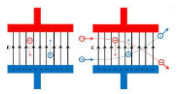


Charged Particles in a Magnetic Field



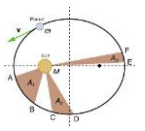
Magnetic Fields

Electric Potential



Charged Particles in an E-Field

Coulomb's Law



Kepler's Laws

Newton's Law of Gravitation

$$F = G\frac{M_1 M_2}{r^2}$$

Gravitational Fields

Resonance

Damping

Thermal Physics

Kinetic Theory of Gases

Half-life

Carbon Dating

Nuclear fusion

Nuclear fission

Einstein's mass-energy equation

ASTROPHYSICS

FIELDS

NUCLEAR PHYSICS

THERMAL PHYSICS

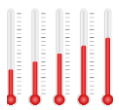
Nuclear decay

Radioactivity

Nuclear Physics

Binding Energy

Exponential Decay



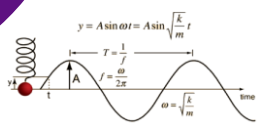
Specific Heat Capacity

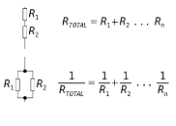
Specific Latent Heat

Circular and SHM

Electric Fields

Gravitational Potential





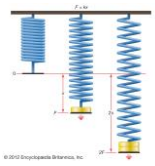
Analysing Circuits

Kirchhoff's First Law

Combining Resistors

Resistance

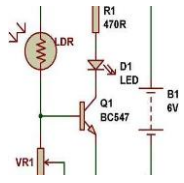
Momentum



Hooke's Law and Young's Modulus

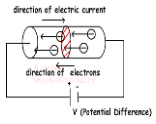
Year 13

ELECTRICITY



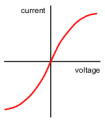
Resistivity

Electrical Energy



Potential Divider

IV Characteristics



Pd and EMF

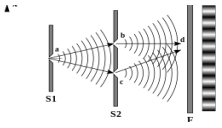
Electrical Current

Density and Pressure

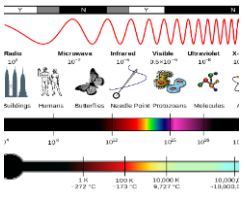
Power

Conservation of Energy

Stationary waves



Superposition of waves



WAVES

FORCES & MATERIALS

Diffraction and polarisation

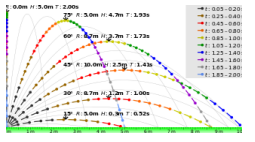
Total Internal Reflection

Young's Double Slit Experimentt experiment

Kinematics and the motion of bodies

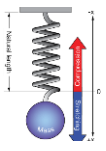
Newton's Laws of Motion

Deforming Materials

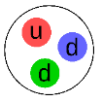


Reflection and refraction

Waves

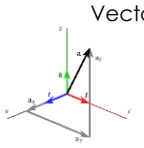


Quantum Physics



Quarks

The nucleus



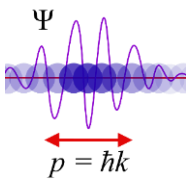
Scalars & Vectors

Induction tasks

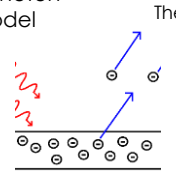
Wave-Particle Duality

PARTICLES & RADIATION

Year 12



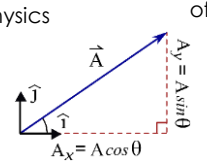
The Photon Model



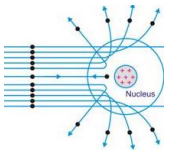
The Photoelectric Effect

Anti-particles, hadrons and leptons

Alpha Particle Scattering



Particle Physics



Foundations of Physics

Summer Bridging Work