PHYSICS LEARNING JOURNEY

Understanding and Applying Scientific Skills

Year 7 → Year 11

- Asking Questions
- Writing Methods
- Precision and Accuracy
- Representative Sampling
- Uncertainty
- Applying maths to the scientific concepts
- Describe patterns
- Evaluation of scientific concepts
- Risks and Hazards
- Understanding variables
- Drawing Tables
- Modelling scientific concepts
- Drawing graphs and analysing graphical data
- Understanding relationships between science and society
- IDEAL Identify, describe, explain, apply, link
- Risk Assessment
- Evaluating data and investigations

YEAR 11

Final GCSE exams

Revision

Space Physics
- **Life Cycle of Stars**
- Gravity, Mass and Weight
- **Orbits**
- **The Solar System**

Force Fields
- **Transformers**
- Electromagnets
- Magnetism
- **Electric Fields**
- Motor Effect
- Flemings LHR
- Magnetic Fields

Electromagnetic Radiation
- **Lenses**
- Infrared Radiation
- Electromagnetic Spectrum
- Properties of Waves
- **Reflection Refraction**
- Uses of EM Spectrum
- Observing Waves
- **Colour**

Radioactivity
- **Nuclear Fission**
- Background Radiation
- Half Life
- Nuclear Equations
- Activity and Types of Radiation

Acceleration
- Velocity time graphs
- Acceleration
- Newton's Laws
- Resultant forces
- Vectors and scalars

Electricity
- Gravitational potential energy
- Elastic Potential Energy
- Power and Energy Transferred
- Terminal Velocity
- Stopping Distance
- **Change of Momentum**
- Hooke's Law
- **Turning Effects**
- Ohm's Law
- I-V Characteristics
- Electrical Power

Energy Conservation
- Energy Stores and Transfers
- Kinetic energy
- Conservation of Energy
- Work Done and Energy

Forces
- Newton's 2nd Law
- Momentum
- Work Done by Forces
- Elasticity

Electricity
- V=IR
- Resistance of Wire
- Resistance in Components

Matter
- Gas Pressure
- Density
- Particle Model
- Structure of Atom

YEAR 10

Home Electricity
- National Grid
- Power and Appliances
- Cost of Electricity
- Plugs
- **Static Electricity**
- Energy Resources
- Power in Circuits
- Power
- Mains Electricity

Sound and Waves
- Loudness and pitch
- Reflection Refraction
- Features of waves
- Infrasound & ultrasound
- Speed of sound
- Velocity of Waves
- Types of waves

Heating
- Specific Latent Heat
- Thermal Transfers
- Specific Heat Capacity
- Internal Energy

YEAR 9

Movement & Pressure
- Speed
- Distance-Time Graphs
- Pressure in liquids
- Moments
- Pressure in gasses
- Pressure in solids

Magnetism
- Electromagnetism
- Earth's Magnetic field
- Magnets and magnetic fields
- Investigating Electromagnetism

Resistance
- Current and Potential Difference
- Ohms Law
- Resistance in Series and Parallel
- Resistance
- Measuring Resistance

Light
- Reflection
- Lenses
- Light
- Refraction
- Colours

YEAR 8

Electricity
- Measuring Voltage
- Components
- Measuring Current
- Series and parallel
- Current
- Models of Electricity

Energy Transfers
- Radiation
- Energy & Temperature
- Energy & food
- Energy Stores
- Conductors and Insulators
- Energy transfer - particles
- Wasted Energy and Efficiency
- Energy Transfers
- Energy Intro

Space
- Seasons and Eclipses
- The Solar system
- Mass and Weight
- Satellites
- Keeping in Orbit
- Gravity

Forces
- Drag forces & friction
- Interaction Pairs
- Balancing forces
- Stretching & squashing
- Resultant Forces
- Identifying forces

Maths in Science Skills

Year 7 → Year 11

- Decimals
- Substitution
- Calculating Mean and Range
- Line Graphs
- Fractions
- Percentages
- Significant Figures
- Standard Form
- Linear Graphs
- Using Equations
- SI Units and Quantities
- Presenting Data
- Bar charts, Histograms and Pie Charts
- Mean, Median, Mode
- Proportionality
- Angles
- Orders of Magnitude
- Calculating Rate of change
- Derived Quantities