

YEAR 10 PHYSICS LEARNING JOURNEY

WORKING SCIENTIFICALLY

(Runs throughout the year)



Laboratory
safety



Variables



Planning
investigations



Measuring
accurately



Recording
results



Graphs and
data



Drawing
conclusions



IDEAL

Identify • Describe
Explain • Apply • Link

1

10.1 CONSERVATION & DISSIPATION OF ENERGY

- Changes in Energy Stores
- Conservation of Energy
- Energy and Work
- Gravitational Potential Energy
- Kinetic and Elastic Energy
- Energy Dissipation
- Energy and Efficiency
- Energy and Power



ENERGY
ENGINEER

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10.2 ENERGY DEMANDS

- Energy Demands
- Energy from wind and water
- Power from the Sun and the Earth
- Energy and the environment
- Big energy issues



RENEWABLE
ENERGY
ENGINEER

3

10.3 ELECTRICITY

- Electrical charges and fields
- Current and charge
- Potential difference and Resistance
- Required practical: Resistance of a wire
- Component Characteristics
- Required practical: Diode, lamp, resistor
- Series Circuits
- Parallel Circuits



ELECTRICAL
ENGINEER

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10.4 ELECTRICITY IN THE HOME

- Alternating Current
- Cables and Plugs
- Electrical Power and Potential Difference
- Electrical Currents and Energy Transfer



BUILDING
SERVICES
ENGINEER

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10.5 ENERGY TRANSFER BY HEATING

- Appliances
- Energy Transfers By Conduction
- More about Infrared radiation
- Specific Heat Capacity
- SHC practical
- Heating and Insulating Buildings
- Required practical: Insulation



THERMAL
ENGINEER

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10.6 MOLECULES AND MATTER

- Density
- Required practical: Density
- States of Matter
- Changes of state
- Internal energy
- Specific Latent Heat
- Gas Pressure and temperature
- Gas pressure & volume maths/prac



MATERIALS
SCIENTIST

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10.7 RADIOACTIVITY

- Atoms and Radiation
- The Discovery of the Nucleus
- Changes in the Nucleus
- More about Radiation
- Activity and Half-life
- Nuclear radiation in medicine
- Nuclear fission
- Nuclear fusion
- Nuclear issues



NUCLEAR
TECHNICIAN

8

10.8 FORCES IN BALANCE

- Vectors & scalars
- Newton's 3 laws
- Forces between objects
- Resultant forces
- Moments at work
- More about levers and gears
- Moments & equilibrium
- Parallelogram of forces
- Resolution of forces



STRUCTURAL
ENGINEER

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10.9 REVISION & EXAM PREPARATION

- AP1
- AP2
- AP3
- Required practical review
- Paper 1 revision
- Past paper practice
- Exam technique
- Ready for Year 11



PHYSICIST

**END OF
YEAR 10**



**READY FOR
YEAR 11**

SKILLS DEVELOPED DURING YEAR 10



Working
scientifically



Practical
investigations



Measuring
accurately



Scientific
calculations



Graph drawing
and analysis



Identifying
patterns



Evaluating
methods



Writing
conclusions



Extended
responses



Applying
scientific
knowledge

ASSESSMENT WINDOWS – YEAR 10 PHYSICS

TERM	YEAR GROUP	ASSESSMENT WINDOW DATES	ASSESSMENT POINT	TOPICS THAT COULD APPEAR
 AUTUMN	10	October 2026	AP1	• 10.1 Conservation & dissipation of energy • 10.2 Energy demands • 10.3 Electricity • Working Scientifically
 SPRING	10	January 2027	AP2	• 10.4 Electricity in the home • 10.5 Energy transfer by heating • 10.6 Molecules and matter • Working Scientifically
 SUMMER	10	May 2027	AP3	• 10.7 Radioactivity • 10.8 Forces in balance • 10.9 Revision & exam preparation • Whole-year knowledge

