

Physics Learning Journey- 5 Year Curriculum

Triple Science



A level Sciences – Biology, Chemistry and Physics
(Need grade 6 and above and grade 6 in Maths)

Other post 16 options –
Apprenticeships, other A
level subjects, other
BTEC subjects, other
training, College?

BTEC applied science
(Need Grade 5 in Science)



End of year exams!!

Required Practical revision

Revision of all topics

Pressure in solids,
liquids and gases (T)

Radiation (T)

YEAR 11

Moments, levers,
gears (T)

Lenses and lights (T)

Nuclear Fission and
Fusion (T)

Generators and
transformers (T)

Solar systems, orbits
and red shift (T)



Newton's laws



YEAR 11

Generators and
transformers (T)

Nuclear Fission and
Fusion (T)

Generators and
transformers (T)

Solar systems, orbits
and red shift (T)



Required practical-
acceleration

Momentum (T)

P9 Newton's Laws

In the 17th Century, a scientist called Isaac Newton investigated the way things move and produced three laws of motion. His laws are still very important, and examples can be found everywhere we look.

Specific latent heat

Required practical-
specific heat capacity



Changes of state
an particle model

P8 Particle model of matter
The particle model is widely used to predict the behaviour of solids, liquids and gases and this has many applications in everyday life. It helps us to explain a wide range of observations and engineers use these principles when designing vessels to withstand high pressures and temperatures, such as submarines and spacecraft.



Hooke's law

Distance and displacement



Temperature change and gas pressure

Temperature changes in a system

Internal energy

Required practical-
density

Density of materials



Increasing the pressure of a gas (T)

Gas pressure and volume (T)

Temperature change and gas pressure

Temperature changes in a system

Internal energy

Required practical-
density

Density of materials

Required practical-
I-V characteristics



P7 Magnetism and electromagnetism
Magnetism is a fascinating invisible force – it influences the environment around it. A magnet is a material that can pull certain types of metal towards itself.

Wires, solenoid and
electromagnets



Fleming's left-hand rule

YEAR 10

Required practical-
resistance

Series and parallel circuits

Current and voltage

Ohm's Law

Direct and alternating current and energy transfers

The National grid

Magnetic fields

The motor effect and $F=BIl$

P6 Electricity
Electricity is all around us. It powers our lights, charges our phones, and helps keep us warm. Electricity is a form of energy that can give things the ability to move and work.



YEAR 9

Uses of nuclear radiation (T)

Half life

Nuclear equations

Development of the model of the atom

Mass, atomic number and isotopes

Structure of the atom

Electromagnetic waves and the dangers

Doppler and superposition of waves

Sound



The eye and seeing colors

Radiation and contamination

Radioactive decay and nuclear radiation

P5 Atomic Structure
Atomic structure links between position of the element in the periodic table and its importance as a predictive tool. Radioactivity helps students to explore the moral, ethical, social, economic, environmental and technological implications and applications of physics

Required practical-
ripple tank

Light waves-
reflection/refraction

Required practical-
Standing waves

Waves introduction

P3 Space
Learning about space and the solar system can allow for greater appreciation for the frailness of Earth. Knowing why our planet is extra special and how we can protect it helps keep the planet safe and healthy



Weight and Gravity

The moon

Life cycle of stars

Calculating wave speed and period

P4 Waves
Waves transfer energy from one object to another object by radiation, even when the objects are not touching. Waves carry information and help us to communicate, explore the universe, and transfer energy to where we want it.

Speed, velocity and acceleration

Required practical-
Force and extension

Terminal velocity

Solar system

The Earth

Orbits

The universe

YEAR 8

Mass and weight

Hooke's law

Representing forces

Renewable energy

Efficiency

Required practical-
Radiation and absorption

Conduction, convection and radiation

Changes in energy

P1 Energy
We use energy in all its forms almost every day. Engineers study these forms of energy to help create things that make our lives easier.

Forces

Required practical-
Force and extension

Terminal velocity

Solar system

The Earth

Orbits

The universe

Mass and weight

Hooke's law

Representing forces

Renewable energy

Efficiency

Required practical-
Radiation and absorption

Conduction, convection and radiation

Changes in energy

Forces

Required practical-
Force and extension

Terminal velocity

Solar system

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YEAR 7



Forces

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welcome