# Bramhall High School Physics

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

BTEC Science
(Need Grade 5 in Science)

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

End of year exams!

## YEAR 11

- -Pressure calcs
- -Pressure in fluids
- -Pressure
- -Upthrust
- -Bending materials
- -Stretching springs
- -Elastic & inelastic
- Work done on stretched springs
- -Elastic limit
- -Spring calculations
- Hooke's Law

**P15**

- -Gas temperature & pressures
- -Gas pressures & volume
- -Gas pressure calculations
- -Work & temperature
- -Pressure & particles
- -Absolute zero
- -Kelvin Scale

**P14**

- -Particles model
- -Density
- -Changing state
- -Specific heat capacity
- -Specific Latent heat
- -Electromagnetic induction
- -Generators
- -Transformer calculations
- -Microphones

**P13**

- -Transformers
- -National Grid
- -Transformer calcs
- -Motors
- -Loudspeakers
- -Magnets and fields
- -Electromagnetism
- -Magnetic forces

**P12**

- -Charges & electrostatics
- -Dangers of electrostatics
- -Electric Fields
- -Uses of electrostatics

**P11**

- -Energy and heating from a circuit
- -Energy and power in circuits
- -Power in circuits
- -Domestic electricity
- -Electrical Safety
- -Circuit symbols
- -Series circuits
- -Parallel circuits
- -Current & P.D rules in series
- -Current & P.D rules in parallel

**P10**

- -Energy and charge in circuits
- -Series resistors
- -Parallel resistors
- -Special resistors
- moments
- Force vector diagrams

**P8 and 9**

- -Solar System
- -Gravity
- -Orbits
- -Life cycle of stars
- -Redshift
- -CMBR
- -Big-Bang
- -Steady State
- -Heliocentric
- -Geocentric
- -Work
- -Power

**P7**

- Radiation in medicine
- Nuclear fusion
- Nuclear fission
- Dangers of radioactivity
- Using radioactivity
- Half-life
- -History of the atom
- -Atomic structure
- -Working out p,e,n
- -Electron orbits
- -Radiation
- -Temperature
- -Climate change
- -EM spectrum
- -EM properties
- -EM uses and dangers

**P6**

- -Radiative decay
- -GM Tubes
- -Background radiation
- -Ray Diagrams
- -Lenses
- -Dispersion
- -Colour
- -TIR and critical angle
- -Ultrasound
- -Infrasound
- -Uses of these
- -Hearing
- -Hearing range
- -Ears

**P5**

- -Reflection
- -Refraction
- -Wave properties
- -Transverse waves
- -Longitudinal waves
- -Wave speed
- -Refraction
- -Waves & boundaries

**P4**

- -Renewable
- -Non-renewable
- -Efficiency
- -Keeping warm
- -Kinetic energy
- -Potential energy

## YEAR 10

- -Momentum
- -Stopping distances
- -Collisions
- -Crash safety

**P2**

- -Vectors and scalars
- -Speed and d/t graphs
- -Acceleration
- -Speed/time graphs

**Application of Forces**

- -Electromagnets
- -Factors & uses
- -Electric field
- -Electrostatics

## YEAR 9

- -Gravity
- -Mass & weight
- -Earth's magnetic field
- -Day
- -Night
- -Year
- -Seasons

**Earth in space**

- Solar system
- Energy usage
- Paying for energy
- -Efficiency
- -Sankey diagrams
- Insulation
- Heat transfers

**Energy**

- -Dispersion
- -Coloured light
- -Coloured surfaces
- -Coloured filters
- Lenses
- -Reflections
- -Refraction

**Light**

- -Using light
- -Cameras
- -Eyes
- -Properties
- -Shadows
- -Drag forces
- -Streamlining
- Density
- Pressure in liquids

**Fluids**

- -Floating
- -Sinking
- -Upthrust
- -Physical reactions
- -Heating and cooling

**Forces and Motion – P1**

- -Moments
- -Levers
- -Gears

**Force fields & Electromagnets**

- -Energy stores
- -Energy transfers

**Energy**

**Science skills**

- -Resultant forces
- -force diagrams
- -Newton's laws
- -Mass, weight
- -gravity

**P3**

- -Energy stores
- -Energy transfers

## YEAR 8

- Using ultrasound
- -Vibrations
- -Speed of sound
- -Transverse waves
- -Longitudinal waves
- Hearing range

**Sound**

- Pressure in solids
- -Balanced forces
- -Unbalanced forces
- -Forces on springs
- -elastic
- -Voltage
- -Resistance
- -Electrical dangers
- -Electrical safety
- -electric current
- -Modelling
- -Conductors
- -Insulators
- -Symbols

**Electricity**

- -Series circuits
- -Parallel circuits
- -Energy sources
- -Power stations
- -Energy in food
- -Diet requirements

**Forces**

- -Friction
- -Uses of friction
- -Effects of friction
- Types of forces

## YEAR 7

welcome

National Curriculum Compliant