

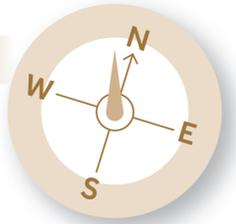


George Abbot School

PHYSICS CURRICULUM JOURNEY

What can I do with Physics qualifications?

- Astronomer
- Clinical scientist
- Nanotechnologist
- Radiation protection practitioner
- Research scientist
- Materials specialist
- Sound engineer
- Physics Lecturer



Learn how to handle our radioactive materials safely.

Which will you choose from Astrophysics, Medical Physics, Engineering Physics, Turning Points in Physics or Electronics?

What assumptions are made when deriving the idea gas equation?

What are the similarities and differences between electric and gravitational fields? Can you predict the rate at which a capacitor will discharge?



YEAR 13

Further Mechanics

Thermal Physics

Electric & gravitational fields

Using the principles of simple harmonic motion to investigate a pendulum and a mass bouncing on a spring.

How to calculate where a cannon ball will land once fired?

The resistivity of a superconductor is zero, but why is that useful?

Electricity

Materials

Mechanics

Measuring Waves

Have you noticed that when a Mars bar acts as a cantilever it bends, but a KitKat snaps?

If protons repel each other, what holds the nucleus together?



How can we measure the wavelength of light? Can waves be stationary?

YEAR 12

Measurements and errors

Particles and radiation

Exploring Space

Practical work is underpinned by an awareness of the nature of measurement errors.

What apparatus do you need to investigate the shape of a magnetic field? How can you make an electromagnet stronger?

How do we know that the universe is expanding? Will the sun become a black hole?

Magnetism and electromagnetism

Waves

YEAR 11

Investigating Forces

Waves carry energy and information from one place to another. Can someone ring your mobile phone if it is wrapped in tin foil?

Engineers use the principles of pressure when designing submarines and spacecraft.

What is the structure of the atom?

Particle model of matter

Pressure

Atoms

Nuclear physics

Engineers analyse forces when designing machines and instruments.

YEAR 10

Static electricity

Mains electricity

Series and Parallel circuits

Phenomena explained by assuming that everything is made of particles.

Hair raising stuff!

Investigating electricity in your home.



Do you know the difference between an LED and a LDR?

There are two ways of joining electrical components.

Conservation of energy

Energy resources

Electric circuits

YEAR 9

Space

Forces

Sound

How is energy stored? Can energy be transferred from one store to another?

Is weight the same as mass? Has our sun always been the same as it is now?

Stretching, floating, flying and accelerating all need forces.

Forces at work



Reflection, refraction, dispersion, absorption. Can you find the critical angle?

Can echoes be useful? How fast does sound travel?

How science works

Light

How important is the scientific method?

Is there a difference between temperature and heat? What is the coldest anything can be?

Can you make a circuit?

How to be safe around electricity. How to turn a lemon into a battery.

Electricity

Energy

Heat

YEAR 7

Electricity

Are there alternatives to burning fossil fuels? How can you measure the amount of energy in food?

How many forces can you name? What affect do they have on objects.



KS2

Working Scientifically

Space

Forces

Light

How do you carry out a scientific enquiry?

Describe the movement of the Earth, moon and sun.

How do we see things and what causes shadows?

Your Physics journey starts here ...