

5Yr Physics – Topics List

Light, Waves & Sound

- Waves
- Sound
- Mirrors
- Refraction
- Lenses
- Light Waves

Experiments highlighted in yellow!

Mechanics

- Velocity
- Acceleration
- Vectors & Scalars
- Force, Mass & Momentum
- Pressure
- Gravity
- Moments
- Work, Energy & Power

Experiments highlighted in green!

Temperature & Heat

- Temperature
- Heat

Experiments highlighted in red!

Electricity

- Static Electricity
- Potential Difference & Capacitance
- Current and Charge
- Electromotive Force and Potential Difference
- Resistance

Experiments highlighted in blue!

6Yr Physics - Topic List

Mechanics

- Circular Motion
- Simple Harmonic Motion
- Effects of an Electric Current

Electricity

- Semi-Conductors
- Magnet and Magnetic Fields
- Current in a Magnetic Field

Modern Physics

- The Electron
- The Atom and Radioactivity
- Nuclear Energy

Option 1

- Particle Physics

Mandatory Experiments

Fifth Year	
1.	Measurement of the focal length of a concave mirror
2.	To verify Snell's law of refraction and hence measure the refractive index of a glass block
3.	Measurement of the focal length of a convex lens
4.	Measurement of speed using a ticker-tape timer
5.	Measurement of acceleration using a data-logger
6.	Measurement of acceleration due to gravity (g) using the freefall method
7.	To show that acceleration is proportional to the force which caused it ($F = ma$)
8.	To verify the principle of conservation of momentum
9.	Verification of Boyle's Law
10.	Investigation of the laws of equilibrium for a set of co-planar forces
11.	To calibrate a thermometer using the laboratory mercury thermometer as a standard
12.	Measurement of the specific heat capacity of water
13.	Measurement of the specific latent heat of fusion of ice
14.	Measurement of the specific latent heat of vaporisation of water
15.	To measure the speed of sound in air
16.	Investigation of the variation of fundamental frequency of a stretched string with length
17.	Investigation of the variation of fundamental frequency of a stretched string with tension
18.	Measurement of the wavelength of monochromatic light
19.	To investigate the variation of current (I) with potential difference (V) for a metallic conductor
20.	To investigate the variation of current (I) with potential difference (V) for a filament bulb
21.	To measure the resistivity of the material of a wire
22.	To investigate the variation of the resistance of a metallic conductor with temperature
Sixth Year	
23.	To investigate the variation of current (I) with potential difference (V) for copper electrodes in a copper-sulphate solution
24.	To verify Joule's Law
25.	To investigate the variation of current (I) with potential difference (V) for a semiconductor diode
26.	To investigate the variation of the resistance of a thermistor with temperature
27.	Investigation of the relationship between <i>periodic time</i> and <i>length</i> for a simple pendulum and hence calculation of g .