Physics Learning Journey

Beyond AGS

Or just continue to develop an interest in physics and develop life-long learning.

Physics related careers...

- Acoustic technician
- Researcher
- Astronomer
- Clinical scientist
- Metallurgist
- Meteorologist
- Geophysicist
- Electrical engineer
- Engineer
- Nanotechnologist
- Nuclear engineer
- Sound engineer
- Radiographer
- Technical author

Continuing to study a physics related course...

- Physics
- Astrophysics
- Space science
- Molecular physics
- Applied physics
- Engineering
- Astronomy
- Acoustics
- Computational physics
- Chemical physics
- Electricity and magnetism
- Electronics
- Medical physics
- Fluid mechanics
- Particle physics
- Nuclear physics

Preparation for exams

Optional Module

Nuclear Physics
- Binding Energy
- Gold Leaf Experiment
- Nuclear Size
- Decays
- Nuclear Reactors

Thermal Physics
- Thermal Energy
- Gas Laws
- Kinetic Theory Model

Fields
- Gravitational & electric fields
- Capacitors
- Magnetic Fields

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Further Mechanics
- Circular Motion
- SHM
- Mass-Spring Systems
- Pendulums

Waves:
- Wave Properties
- Phase Difference
- Reflection
- Refraction & diffraction
- Electromagnetic Waves

Electricity:
- EMF
- Resistivity and Resistance
- Series and Parallel Circuits
- Ohm's Law
- Kirchhoff's Laws

Particle Physics
- Standard Model
- Particle-Wave Duality
- Hydrogen Atom

Mechanics and Materials
- Moments
- Newton's Laws
- Momentum
- Energy Conservation
- Materials under Stress

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Space (Sep)
- Solar System
- Life cycle of stars
- Origin of the Universe
- Red shifts

Electromagnetism
- Magnets and magnetic fields
- Electromagnetic induction
- Electric motors (Sep
- Generator effect (Sep)
- Transformers (Sep)

EM waves
- EM spectrum
- Radiation and temperature
- Lenses (Sep)

Wave properties
- Transverse and longitudinal waves
- Refraction (Sep)
- Ultra/Infra-sound (Sep)

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Forces and motion
- Velocity & acceleration
- Newton's laws
- Momentum
- Collisions

Forces
- Scalar & vector
- Resultant forces
- Elasticity
- Moments (Sep)
- Pressure (Sep)

Atoms and radiation
- Atomic structure
- Alpha, beta and gamma
- Contamination & irradiation
- Nuclear fission/fusion (Sep)

Electricity in the home
- AC/DC
- Plugs and fuses
- National grid

Electrical circuits
- Electric circuits
- Charge and current
- p.d. and resistance

Static electricity

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Energy
- Energy stores and transfers
- Power
- Efficiency & insulation

Energy resources
- Fossil fuels
- Nuclear energy
- Renewable resources

Particle Model
- Density
- Energy and changes of state
- SHC
- Motion of particles

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P14: Electricity, magnetism and forces
- Magnets
- Electromagnets

P12: Resistance
- Series and parallel circuits,
- Resistance

P11: Sound and pressure waves
- Waves
- Sound
- Properties
- Hearing

P10: Falling, stretching and turning
- Forces in falling
- Stretching forces
- Turning forces

P9: Electrical circuits
- Series circuits
- Current and potential difference
- Static electricity
- Electric fields

P8: Seasons
- Day and night
- Seasons

P7: Refraction of light
- Pinhole camera
- Refractions
- Lenses

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P6: Force and motion
- Air resistance
- Speed
- Relative motion

P5: Heat energy
- Heat and temperature
- Conduction

P4: How do we see?
- The eye
- Seeing colour

P3: Space and forces
- Solar system
- Galaxies and the universe
- Mass and weight

P2: Light waves
- Light
- Shadows
- Reflection

P1: Forces and energy
- Forces/ effects
- Resultant forces
- Friction
- Energy stores and transfer
- Conservation/ efficiency

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Primary School

- Light, including shadows, reflection, how we see related to reflection.
- Forces, including magnets, movement on surfaces, gravity, resistant forces and mechanisms (lever and pulleys – multiplying forces).
- Sound, including how sound is made, pitch, volume and how distance affects volume.
- Electricity, including simple series circuits, role of switches and conductors (metals) and insulators, how number of cells changes bulb brightness and circuit symbols.
- Earth and space, including movement in the solay system, moon and Earth relative movement and the Earth's rotation (day, night and the apparent movement of the sun).