

# Year 13 Physics Preview Sheet

## Exam Board: AQA Physics Year 13

### Further Mechanics and Periodic Motion

- Circular motion
- SHM
- Forced vibrations and resonance of

### Thermal Physics

- Thermal Energy Transfer
- Ideal Gas Laws
- Molecular Kinetic Theory

### Fields and Their Consequences

- Gravitational Fields
- Newton's Laws and Field strength
- Orbits of planets
- Electric Fields and field strength
- Electric Potential
- The parallel plate capacitor
- Energy stored in a capacitor
- Capacitor discharge
- Magnetic Fields and moving charges #

- Magnetic Flux and flux linkage
- EM induction
- AC and DC
- Transformers

### Nuclear Physics

- Radioactivity and Rutherford scattering
- Types of radiation
- Radioactive decay and instability
- Nuclear radius
- Mass and Energy
- Fission and fusion
- Safety

### Astrophysics

- Astronomical telescopes
- Reflecting telescopes
- Single dish radio telescopes
- Large diameter telescopes
- Star classification
- Absolute magnitude

- Classification by temperature and black-body radiation
- Stellar spectral classes
- HR diagrams
- Supernovae, neutron stars and black-holes
- Hubble's Law
- Quasars
- Exoplanet detection