

Curriculum Content

Theme I: Matter and Radiation, Quarks and Leptons (1st Quarter)

Lessons:

- Inside the atom
- Stable and un stable nuclei
- Photons
- Particles and antiparticles
- How particles interact
- The particle zoo
- Particle sorting

Theme II: Quarks and Leptons, Quantum Phenomena (2nd Quarter)

Lessons:

- Leptons at work
- Quarks and antiquarks
- Conservation rules
- Photoelectricity
- More about photoelectricity
- Collisions of electrons with atoms
- Energy levels in atoms

Theme III: Quantum Phenomena and Electric Current (3rd Quarter)

Lessons:

- Energy levels and spectra
- Wave particle duality
- Current and Charge
- Potential difference and power
- Resistance
- Components and their Characteristics
- Circuit rules

Theme IV: Direct current circuits and Alternating currents (4th Quarter)

Lessons:

- More about resistance
- Emf and internal resistance
- More circuit calculations
- The potential divider
- Alternating current and power
- Using an oscilloscope

