



LITE Regal  
EDUCATION

### **Intermediate Chemistry 13-15**

**Age Category : 13-15**

1. Bonding, structure, and the properties of matter
2. Electromagnetic radiation, photoelectric effect,
3. The Bohr model, ( $Z = 1$ ) or for a hydrogen-like ion ( $Z > 1$ )
4. The quantum mechanical model of an atom, quantum numbers, orbital shapes and energies
  
5. Units of measurement, significant figures, uncertainty in measurement, dimensional analysis
6. Temperature, Density, Pressure, and Classification of matter
7. Organic chemistry – Introduction to Advanced
  
8. Fundamental laws of chemistry (law of conservation of mass, law of definite proportion, law of multiple proportion), Dalton's atomic law
  
9. Electromagnetic radiation, photoelectric effect, the Bohr model, the quantum mechanical model of an atom, quantum numbers, orbital shapes and energies
10. The rate and extent of chemical change
  
11. The Periodic Table, Aufbau principle, periodic trends in atoms
  
12. Acids and bases, chemical reactions and equations, naming simple inorganic compounds
13. Quantitative chemistry
  
14. Atomic mass, Moles, Molecules and ions, molar mass
15. Types of chemical bonds, bond polarity, covalent chemical bond
16. Solutions and mixtures, calculating solution composition: molarity, molarity, and weight percent

**Industry Trips to see Chemistry and Chemists at work**

Trip to Francis Crick Institute

Trip to Science museum

Afternoon trip to zoology museum

Trip to London Royal Hospital

Trip to Cancer Institute

TBC 2019 probably Trip to Chemical GlaxoSmithKline - Brentford HQ

**Trip to Colleges in London and Cambridge University**

Kings College Cambridge, Corpus Christie Cambridge , Sydney Sussex Cambridge

UCL London, Imperial London, LSE London, Kings College London