in addition, the topics below...

ENTRY LEVEL →

Biology



1. Key Concepts in biology

Orders of magnitude and standard form

Enzymes

Core practical investigating enzymes and calculating the rate of reaction

Core practical: food tests

Enzymes in digestion

Core practical: osmosis in potatoes

Diffusion and active transport

2. Cells and control

[No additional videos]

3. Genetics

Asexual and sexual reproduction and meiosis Fractions, Ratio, Proportion and Probability

4. Natural Selection and genetic modification

Natural selection

Human evolution

Classification and evolutionary trees

5. Health, disease and the development of medicines

[No additional videos]

6. Plant Structures and their functions

Limiting factors

Investigating photosynthesis

Photosynthesis

Transpiration

Plant tissues

7. Animal coordination, control and homeostasis

The endocrine system

Adrenalin and thyroxine

The menstrual cycle higher

Thermoregulation

Controlling blood glucose levels

8. Exchange and transport in animals

Diffusion

The circulatory system

Respiration

9. Ecosystems and material cycles

Interdependence

Core practical: sampling in ecosystems

Cycling in ecosystems

Biodiversity

Chemistry



1. Key concepts in chemistry

Developing the atomic model

Electronic Arrangements

Covalent bonding

Isotopes and RAM

Relative Formula Mass

Reacting masses

The mole

Metallic bonding

Concentration in g/dm3

2. States of matter and mixtures

Purity

Chromatography

3. Chemical changes

Acids, alkalis and neutralisation

Strong and weak acids

Electrolysis of molten salts

Electrolysis of aqueous salts

Solubility and Making Insoluble Salts

Investigating neutralisation

Electrolysis of copper sulfate

4. Extracting metals and equilibria

The reactivity of metals

Biological extraction of metals

Reversible reactions and equilibrium

Factors affecting equilibrium

Extraction of Aluminium

Displacement reactions

5. Separate chemistry 1

[None

6. Groups in the periodic table

Group 1 - The Alkali Metals

Group 7 - Halogens

7. Rates of reaction and energy changes

Reaction profile diagrams

Measuring rates of reaction

Interpreting rate graphs

Collision theory and catalysts

Calculating Energy Changes

8. Fuels and Earth science

Cracking

Combustion of hydrocarbons

The greenhouse effect and global warming

Pollution from combustion

Physics



1. Key concepts of physics

[No additional videos]

2. Motion and forces

Scalars and vectors

Distance-time graphs

Acceleration

Velocity-time graphs

Resultant forces

Gravity

Newton's laws of motion

Falling objects

Momentum 1

Momentum 2

3. Conservation of energy

Energy conservation and efficiency

4. Waves

Refraction

Waves meeting boundaries

5. Light & the electromagnetic spectrum

[No additional videos]

6. Radioactivity

Irradiation and radioactive contamination Background radiation

7. Astronomy

[None

8. Energy - forces doing work

Forces, motion and work done

9. Forces and their effects

Components of a force and forces in equilibrium

10. Electricity and circuits

Resistors

Series and parallel circuits

Investigating resistance in circuits

Energy transfer and power in circuits

11. Static electricity

None]

12. Magnetism and the motor effect

[No additional videos]

13. Electromagnetic induction

Electromagnetic induction

Transformers

The National Grid

Transformers and power transmission

14. Particle model

Specific heat capacity and specific latent heat Pressure in gases

15. Forces and matter

Forces and elasticity