

Biology



1. Key Concepts in biology

Eukaryotic and prokaryotic cells
Microscopes and magnification
Microscope drawing and measuring cell size
Specialised cells

2. Cells and control

Cell division
Stem cells
The nervous system

3. Genetics

DNA and the human genome project
Genetic diagrams
Variation and mutation

4. Natural Selection and genetic modification

Selective Breeding
Genetic Engineering

5. Health, disease and the development of medicines

Health and disease
Cardiovascular disease
Immunity and vaccination
Non-communicable disease
Antibiotics and drug trials

6. Plant Structures and their functions

[None]

7. Animal coordination, control and homeostasis

The menstrual cycle foundation

8. Exchange and transport in animals

[None]

9. Ecosystems and material cycles

[None]

Chemistry



1. Key concepts in chemistry

Atomic structure
The Periodic Table
Ionic bonding
Properties of ionic, covalent and metallic structures
Conservation of mass
Giant covalent structures

2. States of matter and mixtures

States of matter
Methods of separating substances
Water for drinking

3. Chemical changes

Reactions of acids
Making soluble salts

4. Extracting metals and equilibria

Extraction of metals and redox
Recycling materials and Life Cycle Assessment

5. Separate chemistry 1

[None]

6. Groups in the periodic table

Group 0 - The Noble Gases

7. Rates of reaction and energy changes

Exothermic and endothermic reactions
Factors affecting rates of reaction

8. Fuels and Earth science

Crude oil and alkanes
The Earth's atmosphere
Gas tests

Physics



1. Key concepts of physics

Key concepts of Physics

2. Motion and forces

Distance and displacement, speed and velocity
Forces and braking

3. Conservation of energy

Energy stores and transfers
Energy resources

4. Waves

Transverse and longitudinal waves
Properties of waves

5. Light and the electromagnetic spectrum

Electromagnetic waves 1
Electromagnetic waves 2

6. Radioactivity

Radioactive decay

7. Astronomy

[None]

8. Energy - forces doing work

Forces, motion and work done

9. Forces and their effects

Contact and non-contact forces

10. Electricity and circuits

Electric charge and current
Circuit symbols
Potential difference, current and resistance
Mains electricity

11. Static electricity

[None]

12. Magnetism and the motor effect

Magnetism
The motor effect

13. Electromagnetic induction

[None]

14. Particle model

Density
Solids, liquids and gases

15. Forces and matter

[None]