



Year 7 Science

AUTUMN TERM

Working Scientifically

- Practical skill development
- Working safely in a lab

Organisms

- Animal and plant cell structure
- Specialised cells
- Using microscopes

Energy

- Energy stores and transfers
- Heating and cooling

Matter

- Particle model and states of matter
- Changes of state
- Diffusion

SPRING TERM

Organisms

- Skeletal and muscular systems
- Respiratory and circulatory systems
- Healthy lifestyle

Waves

- Types of wave and their properties
- Sound waves
- Light waves (reflection and refraction)
- The eye and correcting vision

Matter

- Atoms, elements and compounds
- Periodic table
- Elements

SUMMER TERM

Genes

- Human reproduction

Earth

- Earth structure
- The universe
- The rock cycle

Reactions

- Metals and non-metals
- Chemical and physical changes
- Acids and alkalis

YEAR 7 CURRICULUM OVERVIEW

Building on core knowledge and skills developed in KS2 Science, including: accurately taking measurements, planning investigations and developing scientific conclusions throughout the course of the year. Students also look at presenting and analysing data. Additionally, **comparing** animal and plant cell structure, **calculating** energy input/output, **evaluating** energy resources, **constructing** ray diagrams, **interpreting** oscilloscopes, **constructing** word equations, **explaining** how lifestyle choices affect our health and **explaining** how specialised cells are adapted to their function.



Year 8 Science



AUTUMN TERM

Organisms

- Healthy diet
- Digestion
- Enzymes

Forces

- Contact and non-contact forces
- Speed
- Gravity
- Work
- Pressure

Matter

- Pure and impure substances
- Separation techniques

SPRING TERM

Electricity

- Series and parallel circuits
- Current and potential difference
- Resistance

Magnetism

- Magnetic force and magnetic fields
- Electromagnets

Ecosystems

- Respiration
- Photosynthesis

Reactions

- Physical and chemical properties of Groups 1/7/0
- Patterns in reactivity

SUMMER TERM

Ecosystems

- Plant reproduction
- Interdependence

Genes

- Variation
- Inheritance
- Evolution

Reactions

- Reactivity series
- Earth's resources
- Materials

YEAR 8 CURRICULUM OVERVIEW

Building on core knowledge and skills developed in year 7 Science, including: **explaining** how the digestive system is adapted to its function, **calculating** weight/work done/pressure, **constructing** distance-time graphs, **planning** methods to investigate photosynthesis, **describing** the process of natural selection, **justifying** separation techniques, **collecting** reliable data and observations to draw conclusions into reactivity, **evaluating** the use of different materials depending on their purpose.



Year 9 Science



AUTUMN TERM

Energy

- Energy stores and transfers
- Energy calculations
- Energy resources

Organisms

- Eukaryotes and prokaryotes
- Microscopes and magnification

Reactions

- Types of reactions including metals and acids, oxidation, combustion and displacement
- Conservation of mass and balancing equations

Earth

- The atmosphere
- Carbon cycle
- Climate

SPRING TERM

Organisms

- Cell transport including diffusion, osmosis and active transport

Waves

- Frequency equation
- Wave properties
- Reflection and refraction
- Visible light

Matter

- Density
- Specific heat capacity

SUMMER TERM

Organisms

- Pathogens and disease
- Body defences
- Aseptic technique
- Vaccinations and monoclonal antibodies

Reactions

- Chemical energy
- Energy level diagrams
- Displacement reactions and extracting metals

YEAR 9 CURRICULUM OVERVIEW

Building on core knowledge and skills developed in year 7 and 8 Science, including: **calculating** energy and efficiency, make **observations** and **construct** word equations for metal reactions, **construct** methods, graphs and **analyse** data from the osmosis investigation, **compare** methods of cell transport, **explain** how the body defends itself against disease and **interpret** data to explain the importance of vaccines, **explain** how the earth's atmosphere has changed and **evaluate** the evidence for global warming, **construct** scientific drawings of cells and **calculate** magnification, **carry out** investigations into energy changes and **interpret** results.