

Lightcliffe Academy

Curriculum Overview

Science



Spiralling

Covid-19 allowed us to revisit our offering of the curriculum and led to the building of a bespoke offering you can see here. We identified the threshold concepts of science and visit them multiple times throughout the 5 years of study. Each year has considered and specific end points allowing us to differentiate the content in terms of its level of challenge in understanding. This separation of content means that students get several opportunities to revisit, revise and reinforce their understanding, fully preparing them for exams in the subject.

Year 7...

Autumn 1

Cells to Organisms
(Cells and Organisation
(including movement))

Autumn 2

Biological Transfers
Cells to organisms
(Reproduction (human))
Biological Transfers (Variation and Interdependence
(including plant reproduction))

Spring 1

Arrangement of Atoms (Chemical Mixtures) Reactions in Chemistry (Chemical Reactions)

Spring 2

Electricity (introduction to circuits and key terminology)
Energy (introduction to types and rules of energy)

Summer 1

Energy Forces (introduction to rules of forces)

Summer 2

Radiation (Light and Sound) Earth Science

Year 8...

Autumn 1

Variation and control (DNA and Biodiversity)

Autumn 2

Biological transfers
Cells to organisms (digestion)
Infection and Response

Spring 1

Radiation (Waves / light)
Supplying the Nation (Conduction, convection, radiation)
Particles (pressure)

Spring 2

Objects and their Interactions (Magnets and electromagnets)
Objects and their interactions (Work Done)

Summer 1

Arrangement of Atoms (periodic table)

Summer 2

Reactions in Chemistry (reactivity series)
Chemistry of the Atmosphere (Atmosphere, carbon cycle)
Using Resources (Using Earth's resources)

Year 9...

Autumn 1

Supplying the Nation (Developing Energy and Electricity)

Autumn 2

Objects and Interactions (principals of forces)
Radiation (introduction to Waves, light, sound and colour)

Spring 1

Arrangements of atoms (introduction to states of matter and atomic model)

Spring 2

Reactions in chemistry (extraction of metals, acids and alkalis)
Cells to organisms (introduction to cell structures, diet and body systems)

Summer 1

Biological transfers (introduction to photosynthesis, respiration and environments)

Summer 2

Variation and control (reproduction, DNA and biodiversity)

Year 10...

Autumn 1

Supplying the Nation (mastery of energy and electricity)

Autumn 2

Cells to organisms (mastery of cell structures Radiation (decay and half-life)

Spring 1

Arrangement of atoms (ionic and covalent compounds and their properties)

Spring 2

Particle Model (specific latent heat and gas laws)
Infection and response (defence systems and drug testing)

Summer 1

Reactions in chemistry (electrolysis and equilibrium)

Summer 2

Radiation (wave calculations and practical waves)
Biological transfers (sampling techniques)

Year 11...

Autumn 1

Objects and Interactions
(momentum, newton's laws and motors)

Autumn 2

Organic chemistry and chemical analysis (crude oil fractional distillation)
Variation and control (inherited disorders genetic engineering)

Spring 1

Chemistry of the atmosphere
(human impact on climate change)

Spring 2

Using resources
(potable water and reducing the use of resources)

Summer 1

Summer 2