

Year 9 Science

Ecology

- Communities, distribution and abundance
- Competition and adaptation
- Feeding relationships
- Materials cycling
- Pollution
- Impact of climate change and biodiversity

Atomic Structure

- The structure and history of the atom
- Chemical equations
- Ions, atoms and isotopes
- Electronic structures

Periodic Table

- Development and structure of the periodic table
- Group 1 and Group 7 elements
- Explaining trends in reactivity

Energy transfer and conservation of energy

- Conduction
- Specific heat capacity
- Heating and insulating buildings
- Changes in energy store
- Conservation of energy
- Energy and work
- Efficiency and electrical appliances

Cell structure

- Animal and plant cells
- Specialisation in cells
- Exchange of materials - diffusion
- Active transport and osmosis
- Microscopy

Structure and bonding

- States of matter
- Ionic bonding and properties
- Covalent bonding and properties
- Metallic bonding and properties
- Fullerenes and graphene
- Nanotechnology

Electricity

- Charge and fields
- Series and parallel circuits

<ul style="list-style-type: none"> • Potential difference and resistance • Alternating current • Cables and plugs • Electrical power and potential difference 	
The Earth's atmosphere <ul style="list-style-type: none"> • History of the atmosphere • Main changes in the atmosphere over time • How the greenhouse gas operates • Problems caused by pollutants in the air 	
Molecules and matter <ul style="list-style-type: none"> • Changes of state • Density • Internal energy and specific latent heat • Gas pressure and temperature 	
Energy resources <ul style="list-style-type: none"> • Energy demands • Energy from wind and water • Power from the Sun and Earth • Energy use and its impact on the environment • Big energy issues 	
Advice to students for independent study	<ul style="list-style-type: none"> • Students can access Sam Learning and BBC Bitesize to support learning and revision. They could also consider purchasing revision books from the following site: https://www.cgpbooks.co.uk/Student/books_ks3_science • Students should read about Science in everyday life; newspapers often have interesting stories.

