

# BIOLOGY

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Student year: **Upper 4 (Yr 9)**

Head of Department: **Mrs S Thorne**

## SUBJECT OVERVIEW

All students will be following a three year programme of study for Science GCSEs and will study the following topics in Upper 4.

### **Subject / Topic**

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- Cell Structure
- Cell division
- Transport in cells
- Principles of organisation
- Animal tissues, organs and organ systems as illustrated by the human digestive and the human circulatory system
- Non-communicable diseases in humans, for example coronary heart disease and cancer

# CHEMISTRY

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Student year: **Upper 4 (Yr 9)**

Head of Department: **Mr I Macdonald**

## SUBJECT OVERVIEW

All students will be following a three year programme of study for Science GCSEs and will study the following topics in Upper 4.

### Subject / Topic

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- A simple model of the atom, symbols, relative atomic mass, electronic charge and isotopes
- Mixtures
- Scientific models of the atom
- Chemical changes (metals)
- Carbon compounds as fuels and feedstock
- Chemistry of the atmosphere
- Chemical changes (reactions of acids)

# PHYSICS

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Student year: **Upper 4 (Yr 9)**

Head of Department: **Mr C Ridler**

## SUBJECT OVERVIEW

All students will be following a three year programme of study for Science GCSEs and will study the following topics in Upper 4.

### Subject / Topic

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#### ENERGY

- Energy stores and energy transfers
- Efficiency
- Thermal insulation
- Energy resources

#### PARTICLE MODEL OF MATTER

- Density
- States of matter
- Internal energy
- Specific heat capacity
- Specific latent heat