

# BIOLOGY

---

Pupil 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. All pupils will study the following topics in Upper 4.

### **Topic**

- 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

---

Pupil 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. All pupils will study the following topics in Upper 4.

### **Topic**

- 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

---

Pupil 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. All pupils will study the following topics in Upper 4.

### **Subject Topic**

#### **Energy**

- Forms of energy and energy transfers
- Work
- Power
- Efficiency
- Thermal insulation
- Energy resources

#### **Particle model of matter**

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