Student year: Upper 3 (Yr 7)

Head of Department: Mrs S Thorne

SUBJECT OVERVIEW

This is the first year of a 2 year Key Stage 3 course. Students learn the knowledge and skills that give a sound foundation for studying Biology to GCSE. The course is divided into six topic-based units.

Subject / Topic

Cells and organisms

- Using microscopes
- Animal and plant cell structure
- Understanding how cells are organized into multicellular organisms

Animal and plant reproduction

- Structure of reproductive systems
- Puberty and the menstrual cycle
- Pregnancy and birth
- Comparing wind and insect pollinated flowers
- Fruit and seed formation and dispersal

Environment and adaptation

- Organisms and their habitat
- Food chains and webs cooperation and competition
- Human effects on the environment

Variation and classification

- The variety of life
- Genetic and environmental variation

Photosynthesis

- The importance of plants
- Leaf structure and photosynthesis

Food and digestion

- Healthy eating
- Food tests
- The digestive system

Students will learn the following skills in the contexts of the topics studied in Upper 3:

Working Scientifically

- Planning and carrying out scientific enquiries to test predictions.
- Making measurements and applying mathematical concepts in data analysis. Using tables and graphs.
- Interpreting observations to draw conclusions. Suggesting possible improvements to investigations.

CHEMISTRY

Student year: Upper 3 (Yr 7)

Head of Department: Mr I Macdonald

SUBJECT OVERVIEW

This is the first year of a 2 year Key Stage 3 course. Students learn the knowledge and skills that give a sound foundation for studying Chemistry to GCSE. The course is divided into five topic-based units.

Subject / Topic

The Particulate Nature of Matter

- The properties of the different states of matter
- Changes of state in terms of the particle model.

Pure and impure substances

- Pure substances and mixtures
- Separation techniques

Atoms and Elements

- Theories and models
- A brief introduction to the periodic table

Acids and Alkalis

- Defining acids and alkalis in terms of neutralisation reactions
- The pH scale for measuring acidity/alkalinity; and indicators

Simple Chemical reactions

- Identifying chemical reactions and gas tests
- Introduction to writing equations

Working Scientifically

Students will learn the following skills in the contexts of the topics studied in Upper 3:

- Understanding how scientific methods and theories develop over time.
- Planning and carrying out scientific enquiries to test predictions.
- Making measurements and applying mathematical concepts in data analysis. Using tables and graphs.
- Interpreting observations to draw conclusions. Suggesting possible improvements to investigations.

Student year: Upper 3 (Yr 7)

Head of Department: Mr C Ridler

SUBJECT OVERVIEW

This is the first year of a 2 year Key Stage 3 course. Students learn the knowledge and skills that give a sound foundation for studying Physics to GCSE. The course is divided into topic-based units and students develop and apply 'working scientifically' skills throughout the year.

Subject / Topic

Energy

- Energy stores and energy transfers
- Fossil fuels and renewable sources of energy

Forces

- Force interactions
- Balanced and unbalanced forces

Motion

- Measuring speed
- Falling objects
- Streamlining

Electricity

- Circuit diagrams
- Resistance of conductors and insulators
- Measuring current in parallel and series circuits
- Switches in parallel and series circuits

Working Scientifically

Students will learn the following skills in the contexts of the topics studied in Upper 3:

- Understanding how scientific methods and theories develop over time.
- Planning and carrying out scientific enquiries to test predictions.
- Making measurements and applying mathematical concepts in data analysis. Using tables and graphs.
- Interpreting observations to draw conclusions. Suggesting possible improvements to investigations.