

# Science

*“The important thing is to never stop questioning”*

Albert Einstein

## Course content

Pupils in Year 10 are taught all three separate sciences (Biology, Chemistry and Physics) by specialised teachers following the OCR Gateway 9-1 Combined Science specification. The course content provides a base level of understanding that will help pupils progress into future scientific thinking. Several practical activities are embedded throughout the teaching topics to allow pupils to develop their scientific inquiry skills.

### Skills developed

- Application of scientific theory
- Practical skills
- Numeracy in Science
- Scientific reasoning
- Scientific literacy
- Enquiry-based learning
- Graph drawing and analysis

### Biology

- Transport in plants
- Nervous and endocrine system
- Reproduction and contraception
- Homeostasis
- Diabetes
- Carbon, Nitrogen and Water Cycles
- Ecosystems and Interdependence
- Genetics and Variation
- Biodiversity and Conservation
- Selective breeding and genetic

### Topics covered

#### Chemistry

- Energy changes
- Redox reactions
- pH and Neutralisation
- Dilutions and titrations
- Electrolysis
- Periodic Table
- Reactivity Series
- Rates of Reaction
- Equilibrium

#### Physics

- Electricity
- Magnets
- Waves
- Electromagnetic Spectrum
- Isotopes
- Radioactivity and nuclear decay
- Energy changes and conservation
- Work done by heating

## For more information

**Miss Milling**

[millingj01@carrmanor.org.uk](mailto:millingj01@carrmanor.org.uk)





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## Course content

After English and Maths, Science is the next qualification that employers, colleges, and universities look at. Pupils will achieve two GCSEs in Science following the OCR Gateway 9-1 Combined Science specification. Pupils will be assessed in Biology, Chemistry, Physics, with a substantial proportion of each exam covering practical and analytical skills in Science. In Year 11 revision of the course content and skills will begin in lessons after February half term. There is no longer any coursework assessment in Science.

## Skills developed

- Manipulation of equipment through practical skills
- Problem solving
- Numeracy
- Literacy
- Scientific thinking
- Graph drawing and analysis

### Biology

- Ecosystems
- Genetics and Variation
- Meiosis
- Classification and Evolution
- Genetic engineering
- Health, disease and the Immune System
- Medical Treatments

## Topics covered

### Chemistry

- Periodic Table
- Rates of Reaction
- Equilibrium
- Extracting metals
- Crude Oil
- Recycling
- The atmosphere

### Physics

- Electromagnetic Spectrum
- Radioactivity and Nuclear Decay
- Energy changes and conservation
- Work Done by heating
- Power and efficiency
- Generation and supply of electricity

For more information

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