

**The Grange School**  
*A Visual & Performing Arts College*

# Science Department

*Information for Parents*

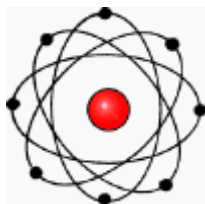


Head of Department	Mr A Page
Assistant Head	Mrs L Ward
2 <sup>nd</sup> in Department	Mrs R Barnard
Science	Miss W Cowton
Science	Miss J McCombie
Laboratory Technician	Mrs D Bebb
Science TA	Mrs J Jones



## Why Study Science?

In Science you will study aspects of Biology, Chemistry and Physics. It is not just about learning facts and theories; there is practical work too. You will gain skills which will be useful in a wide range of jobs or you can on to further study in a variety of Science subjects.



The Grange School Science Department hopes all pupils will enjoy their programmes of study – that they will take pleasure in carrying out practical investigations and experiments which help to develop knowledge and understanding alongside other key skills.

Whilst aiming for high levels of examination success, we also hope to lay the foundations on which a long term interest in Science can be built.

Literacy and numeracy is an integral part of each module as is assessment for learning.

## NATIONAL CURRICULUM KEY STAGE 3

The Lower School Science course is based upon the new QCA Schemes of Work.

Each module lasts about one half term and includes the following topics:

Year 7	Year 8	Year 9
Science Foundation Electricity Classifying & Variation Changing Materials Life Processes Forces The Solar System	Health & Diet Light & Sound Microbes & Disease Rocks & Weathering Magnetism Atoms & Elements	Environment Earth & Space Maintenance of Life Properties of Materials Forces, Energy, Waves & Electricity

Each module of work is assessed through end-of-unit tests as well as coursework and appropriate scientific investigations, leading to an end of year test and overall level assessment. There is in addition a final KS3 Teacher Assessment in Science at the end of Year 9. This is reported to parents, together with the results of the National Curriculum Test.

## Assessment

- Regular unit tests, National Curriculum level Assessed Tasks, and End of Year Examinations in Years 7 & 8
- Teacher assessment of Coursework and Practical Investigations
- Mock examinations and Final Written Exams (2 x 1 hour papers) in Year 9

## NATIONAL CURRICULUM KEY STAGE 4

THE Grange school offers 3 courses at KS4. The GCSE **Edexcel 360 Science** in year10 and the **Additional Science** in year 11. This will allow pupils to gain two GCSE's in Science.

Some pupils may opt for the two year Single Science approach and will study 360 Science in both year 10 and 11.

## Edexcel 360 Science

GCSE Science provides knowledge and understanding of science that is relevant to students' everyday life. The course helps students develop their questioning, analytical and evaluative skills alongside core practical skills. Our aim is to engage students – to stimulate excitement and intrigue about how science works

### Course structure

GCSE Science is based on the Key Stage 4 Programme of Study for Science. The specification contains twelve topics that cover Biology, Chemistry and Physics:

#### B1

**Topic 1:** Environment

**Topic 2:** Genes

**Topic 3:** Electrical and Chemical Signals

**Topic 4:** Use, Misuse and Abuse

#### C1

**Topic 5:** Patterns in Properties

**Topic 6:** Making Changes

**Topic 7:** There's One Earth

**Topic 8:** Designer Products

#### P1

**Topic 9:** Producing and Measuring Electricity

**Topic 10:** You're in Charge

**Topic 11:** Now You See It, Now You Don't

**Topic 12:** Space and its Mysteries

### Assessment

#### External assessment (60%)

Six multiple choice tiered tests (available November, March and June).

#### Internal assessment (40%)

- Assessment activities (30%)

One assessment activity from each of Biology, Chemistry and Physics. The assessment activities and mark schemes are prepared by Edexcel to assess the 'How Science Works' criteria in context of the specification topics. These are marked by the teacher and externally moderated by Edexcel.

- Practical skills assessment (10%)

Assessed by the teacher and non-moderated

# GCSE Additional Science

GCSE Additional Science builds on the knowledge and understanding that students have gained from GCSE Science. Together, they allow students to progress onto the individual GCE Biology, GCE Chemistry and GCE Physics qualifications and onto higher education.

The course helps students develop their questioning, analytical and evaluative skills alongside core practical skills.

## Course Structure

The course is based on twelve topics:

### P2

**Topic 9:** As Fast as You Can!

**Topic 10:** Roller-Coasters and Relativity

**Topic 11:** Putting Radiation to Use

**Topic 12:** Power of the Atom

### C2

**Topic 5:** Synthesis

**Topic 6:** In your Element

**Topic 7:** Chemical Structures

**Topic 8:** How Fast? How Furious?

### B2

**Topic 1:** Inside Living Cells

**Topic 2:** Divide and Develop

**Topic 3:** Energy Flow

**Topic 4:** Interdependence

## Assessment

### Internal assessment (40%)

- Assessment activities (30%)

One assessment activity from each of Biology, Chemistry and Physics. The assessment activities and mark schemes are prepared by Edexcel to assess the 'How Science Works' criteria in context of the specification topics. These are marked by the teacher and externally moderated by Edexcel.

- Practical skills assessment (10%)

Assessed by the teacher and non-moderated.

### Further assessment routes (60%)

Choice of two assessments for each of B2 or C2 or P2 from:

- Multiple choice tiered test (available January and June)
- Structured tiered examination paper (available January and June)
- Centre-devised internal assessment

**NOTE:** Students can choose different assessment methods for B2, P2 and C2. The assessment model is flexible to allow students to follow any route between these maximum and minimum ranges:

- Maximum external assessment – 60% externally assessed: 40% internally assessed
- Maximum internal assessment – 30% externally assessed: 70% internally assessed.

# OCR Entry Level Certificate: (Science +) R482



Some students at KS4 need a course where the pace is slower. Entry Level science is designed for such students and this course develops an enthusiasm for science and improves motivation, such that many students are able to make remarkable progress.

The course is designed as a number of teaching units with short tests and various practical activities, providing a basis of continuous assessment.

## Elements of Assessment

### ***Study a science topic: 16%***

Candidates must be able to produce a short report on a topic of interest in which they collect, record and analyse the evidence they have collected and develop conclusions from what they have found.

### ***'Can do' Tasks: 12%***

These tasks, many of which involve simple manipulative skills, are designed to provide additional positive reinforcement of a candidates' attainment and allow for progression in developing these skills.

### ***Data Analysis: 12%***

Candidates analyse either given data or data they have obtained through practical activity.

### ***End-of-item Tests: 60%***

These are in Biology, Chemistry and Physics

### **Certification will be awarded at three levels**

Level1 Bronze:

Level 2 Silver:

Level 3 Gold

**Science Department - Individual Pupil Assessment  
and Tracking**

<b>Assessment</b>	<b>Effort Grade</b>	<b>Level Test %</b>	<b>How I can improve my level</b>

**Year 7 Target Grade**

**THE GRANGE SCHOOL**

## **The Grange School Science Department Assessment Policy**

### **1. Two topics will be taught.**

At the end of this period pupils will be formally assessed using a SATs style test, comprising of material from the two taught topics.

### **2. Homework and books**

Homework will be marked on a self-assessment basis in the lesson it is due. Class discussion will give constructive guidance for improvement.

Literacy and numeracy will be monitored and corrected, on an individual basis, in class.

This is intended to be a formal assessment of each pupil's progress in half term cycles – class books are intended for note books and will NOT be assessed.