



# GCSE Sciences

Examined summer 2017

Curriculum Leaders:

Biology – Mrs Fletcher-Woods

Chemistry – Mr Mawson

Physics – Mr Tattersall

# Structure of Course – AQA exam board

Combined Science (Trilogy)

2 GCSE grades

Paper 1 & 2 in biology, chemistry & physics – all 1hr 15 mins long

# Biology – what we cover

Paper 1	Paper 2
Topic 1 – Cell biology Cell Structure Investigating cells Cell Division Cell transport	Topic 5 – Homeostasis and response Body temperature Nervous system Hormones and Homeostasis Reproduction and hormones
Topic 2 – Organisation Levels of organisation Digestion Blood and circulation Non-communicable diseases Transport in plants	Topic 6 – Inheritance, variation & evolution Reproduction DNA Inheritance Variation and evolution Classification
Topic 3 – Infection and response Pathogens and disease Human defences against disease Treating diseases	Topic 7 – Ecology Ecosystems Cycles and feeding relationships Disrupting ecosystems Feeding the world
Topic 4 – Bioenergetics Photosynthesis Respiration and exercise	Topic 8 – Key ideas in biology

Combined have nearly completed topic 5. The November Mock paper will be on paper 1.

# Biology – what students struggle with....

## **Paper 1 –**

Magnifications and units

Cell cycle

Plant transport

## **Paper 2 –**

Inheritance

Cycles

## **General Skills**

Using key words & longer answer questions (Q11)

Reading & interpreting exam q's

Interpreting data & maths

skills(Q14)

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# How can you help????

- Help students manage their time.
- Encourage students to break work down into smaller more manageable chunks of work.
- Ask them to tell you about what they have been learning.
- Ask them direct questions about the topic.
- Encourage use of Kerboodle (20 tasks set for Paper 1!!)
- Small rewards
- Managing environment

Physics

# GCSE Physics Content (Combined)

Paper 1

Ch1 Energy	Ch2 Electricity	Ch3 Particle Model	Ch4 Atomic Structure
Energy stores Energy transfers Heating Efficiency Energy resources	Current Resistance Electric circuits Safety Power	Density States of matter Internal energy Gases and pressure	Structure of atoms Radioactivity Hazards and uses

Paper 2

Ch5 Forces	Ch6 Waves	Ch7 Magnetism
Types of force Forces and motion Momentum	Properties of waves Electromagnetic waves	Magnetic fields Motors

# Year 11 Physics Mock 1 Content (Combined)

Paper 1

	<b>Ch2 Electricity</b>	<b>Ch3 Particle Model</b>	
	Current Resistance Electric circuits Safety Power	Density States of matter Internal energy Gases and pressure	

Paper 2

<b>Ch5 Forces</b>	<b>Ch6 Waves</b>	
Types of force Forces and motion Momentum	Properties of waves Electromagnetic waves	



# Mock 1 Equations for Recall

weight = mass $\times$ gravitational field strength (g)	$W = m g$
work done = force $\times$ distance (along the line of action of the force)	$W = F s$
force applied to a spring = spring constant $\times$ extension	$F = k e$
distance travelled = speed $\times$ time	<b><math>s = v t</math></b>
acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
resultant force = mass $\times$ acceleration	$F = m a$
momentum = mass $\times$ velocity	$p = m v$
wave speed = frequency $\times$ wavelength	$v = f \lambda$
charge flow = current $\times$ time	$Q = I t$
potential difference = current $\times$ resistance	$V = I R$
power = potential difference $\times$ current	$P = V I$
power = (current) <sup>2</sup> $\times$ resistance	$P = I^2 R$
energy transferred = power $\times$ time	$E = P t$
energy transferred = charge flow $\times$ potential difference	$E = Q V$
density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$

# Mock 1 Equations not for Recall

(final velocity) <sup>2</sup> – (initial velocity) <sup>2</sup> = 2 × acceleration × distance	$v^2 - u^2 = 2 a s$
period = $\frac{1}{\text{frequency}}$	
thermal energy for a change of state = mass × specific latent heat	$E = m L$

## **Revision Guidance (Physics)**

Use the revision guide, their own notes or the textbook on kerboodle to revise the content.

Learn the equations for recall by heart (highlighted in the revision guide, listed at the back of the textbook and on a sheet given out to students this week) and learn the units for each quantity.

# Chemistry

**Paper 1**

C1 Energy Changes	C2 Periodic Table	C3 Structure and Bonding	C4 Metal Extraction and Quantitative Calculations
States of Matter Distillation Exothermic and Endothermic Reaction Bond Energy Calculations	History of the Periodic Table Atomic Structure and Ion Formation Group 1 and Group 7 Chemistry Transition Metals and Noble Gasses <b>November mock only on PAPER 1</b>	Ionic Bonding Covalent Bonding Giant Structures Polymers Chromatography	Relative Atomic and Formula Masses, Mole Calculations Yield Calculations Acid and Alkalis Titrations Gas Liquid and Thin Layer Chromatography Reductions Electrolysis - Salt, Aluminium and Fuel Cells

**Paper 2**

C5 Rate of Reaction and equilibria	C6 Analysis	C7 Carbon Chemistry	C8 Earth's Materials
How is rate affected by concentration, temperature, particle size and catalysis Reversible Reactions Equilibria	Chromatography Gas Testing <b>February Mock on PAPER 2</b>	Crude Oil Fractional Distillation Properties of Fractions Cracking Alkanes and Alkenes	Evolution of the Atmosphere Climate Change Renewable Resources Water Treatment Life Cycle Analysis

# What you can do to help?

- It is very early in y11, do not do too much.
- Provide a calm clutter free environment.
- Pupils should work out GAPS in knowledge and understanding
- Pupils need to deal with lack of understanding by asking their teachers

Or

- Attending afterschool drop in sessions  
(Chemistry is Thursday 3.30-4.30pm in C4)

## What is available to help?

- 1 Practice questions in revision guides
- 2 School login get pupils into MOODLE

### Y11 Revision GCSE 9-1

#### Chemistry folder

Quizzes,

Q&A,

Checksheets,

Exam papers (updated as the year progresses)



# Queen Elizabeth High School

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## Funeral of Alan Currie school closure on that

Following the very sad news of the untimely death of our dear colleague Alan Currie, we have been informed by Canon Dr Dagmar Winter that Alan's funeral will take place at Hexham Abbey at midday on Friday 17th October 2017. As you will appreciate, a large number of our support staff wish to attend. Given this, it is impractical and unsafe for the school to be open during the period of time they will be out of school from 11am until approximately 2pm. It would be unwise to open the school until 11am on Friday because there would be no school transport available which many of our students rely on.

Having considered the situation carefully, we have made the decision to close the school for one day, for the

- News
- Publications
- SIMS Learning Gateway
- Exams
- Online Resources
- Kerboodle
- Moodle
- Revision (Moodle)
- e-Safety for Students
- Careers Advice
- Learning Resource Centre
- Department Resources

### Message to Parents

It is with deep sadness that we inform you that Alan Currie, our English teacher at QEHS, has died. Alan joined the school in 1982 and has taught countless of Hexham young people over the past thirty-five years. His inspiring teaching, extra-curricular work and role in the wider community, all underpinned by his fundamental kindness and decency, made him a well-known and highly regarded figure. We have been told what has happened and how they can access emotional support in school. A book of condolences has been opened at Hexham Abbey, which can be accessed during the normal opening hours of the Abbey. We will let you know about funeral arrangements for Alan once these become clear.

At a time like this, it is important that we support each other

Moodle

## QEHS Latest Events

- [View Full Calendar](#)
- Monday 16 October 2017  
Year 10 Assessment Week (Options)
- Monday 16 October 2017  
Year 11 Assessment Week (non-mock)
- Tuesday 17 October 2017, 6:30 PM - 8:30 PM  
Revision/Exam Prep Evening
- Thursday 19 October 2017, 3:20 PM -  
School closes for Half Term
- Friday 20 October 2017  
QEHS UCAS Deadline
- Friday 20 October 2017  
Teacher Training Day

<http://w1.qehs.net/moodle2/>



[+ Add an activity or resource](#)

[Go to calendar...](#)  
[New event...](#)

**ADMINISTRATION**

- Course administration
  - Turn editing off
    - Activity chooser off
  - Edit settings
    - Users
  - Filters
  - Reports
  - Grades
  - Gradebook setup
    - Badges
  - Backup
  - Restore
  - Import
  - Reset
    - Question bank
  - Competencies
- Switch role to...
- Site administration

**+ Dual 11E4 and 11Q4 (Higher)** [Edit](#)

- [Quizzes](#) [Edit](#)
- [Paper 1 dual \(H\) \(2012-2013\)](#) [Edit](#)
- [Checksheets](#) [Edit](#)
- [Q&A](#) [Edit](#)
- [Clozed passages](#) [Edit](#)

[+ Add an activity or resource](#)

**RECENT ACTIVITY**

Activity since Monday, 16 October 2017,  
5:59 PM  
[Full report of recent activity...](#)  
No recent activity

**+ Dual 11E5,6 11Q5,6 (Foundation)** [Edit](#)

- [Paper 1 Specimen](#) [Edit](#)
- [Paper 1 \(2007-2009\)](#) [Edit](#)
- [Quizzes](#) [Edit](#)
- [Checksheets](#) [Edit](#)
- [Clozed Passages](#) [Edit](#)