

Year 11 Science Parent Forum

Subject Leader-Mrs Venables



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'Ports of call'

Mrs Venables	Subject Leader	All queries Combined Science Triple Biology
Mr Burden	Leader of Physics	Triple Physics
Mr Agor	Leader of Chemistry	Triple Chemistry

Year 11 Progress Leader: Mrs Turner

Year 10 Progress Leader: Mr Udkah



Exam board

Which exam board are we using?

AQA

**This is for both Triple and Combined.
Combined are following AQA Trilogy.**



How many exams will my child sit?

- 6 written exams for Science- 2 for Biology, 2 for Chemistry and 2 for Physics.
- For Combined Science - each paper will be 1 hour 15 minutes long and there are 70 marks available on each paper.
- For Triple Science - each paper will be 1 hour 45 minutes long and there are 100 marks available on each paper.



Foundation or Higher Tier entries

Which tier is my child going to sit?

Final decision will be made after the Year 11 PPEs.

H – Triple – Higher

I – Combined – Higher

J – Combined – Foundation

K – Combined – Foundation

L – Combined - Foundation



Key Dates

- 10th October 2024 - **Year 11 Progress Evening**
- Week beginning 23rd and 30th September 2024 - **Summative Assessments**
- Week beginning 13th **and** 19th January 2025 – **PPE window**
- 20th March 2025 – **Year 11 Progress Evening**
- GCSE examination dates should be released early Autumn, we'll communicate them as soon as we know them.



GCSE Combined Science grades

• Combined Science double weighted.	99	55
	89	45
	88	44
• Cumulative score across all 6 papers gives 2 grades.	78	43
	77	33
	76	32
• For 'point scores' students will get an average.	66	22
	65	21
	55	11

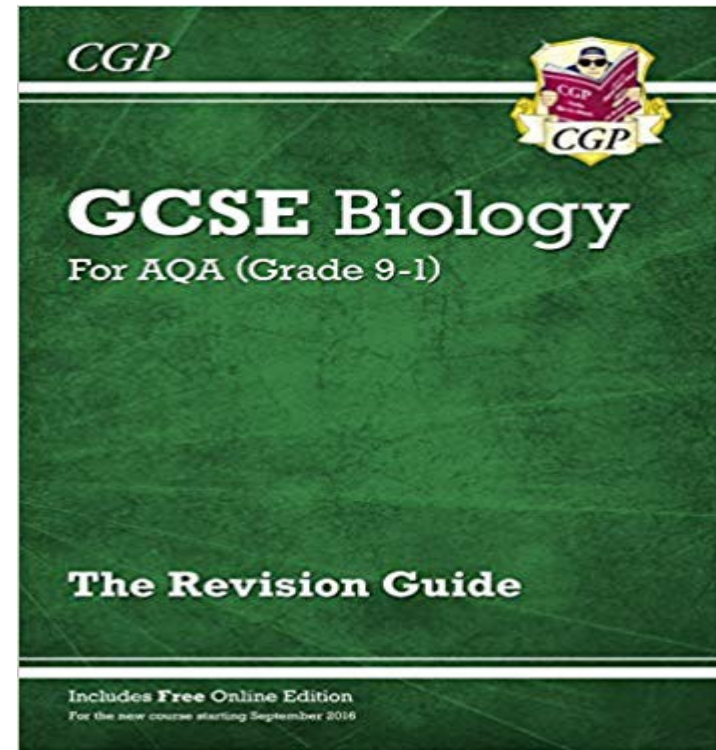
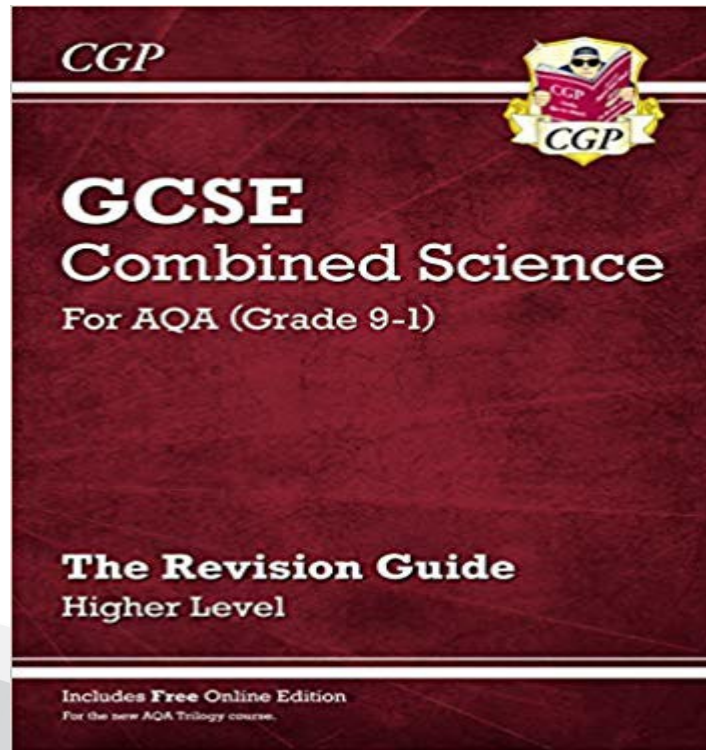


How can we help year 11 students prepare & revise for GCSE?

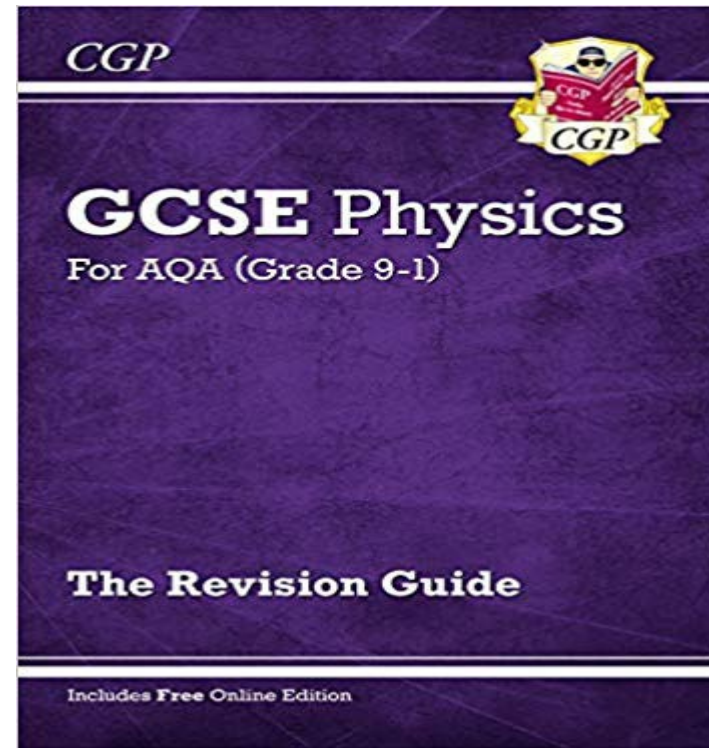
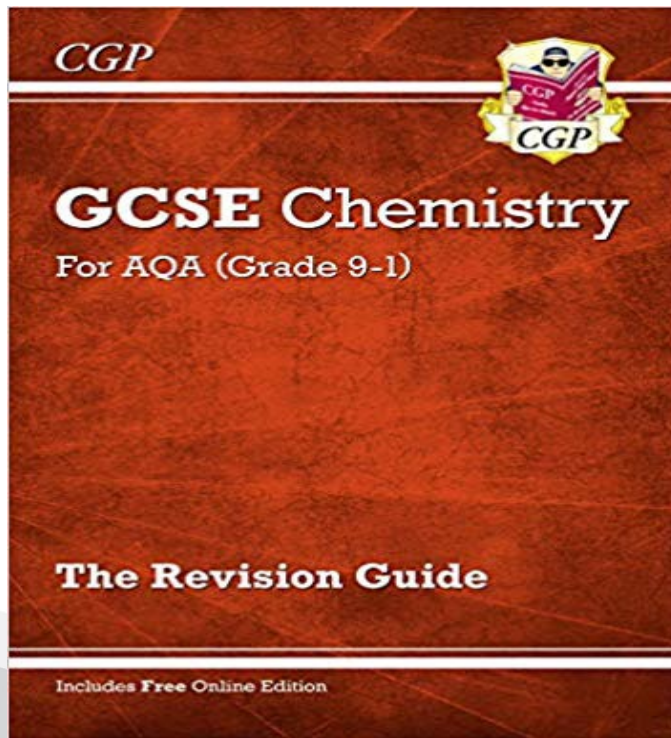


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Science revision guides



Science revision guides



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Useful websites – Free Science Lessons

female male

These hormones bind to specific **target organs** where they trigger an effect.

0:40 / 5:25

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Useful websites – Malmesbury Education



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GCSE Science Required Practicals



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GCSE Science Required Practicals

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Useful websites – Cognito



Past Papers ▾ Exam Qs by Topic ▾ Videos ▾

Welcome to Cognito Resources

We have all the past papers that we could find, so select what you're looking for

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Cognito

@Cognitoedu 545K subscribers 399 videos

Hi - we make video lessons for GCSE science and maths. The lessons give...

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Revision Centre

The screenshot shows the Belfairs Academy SharePoint site. The top navigation bar includes the Belfairs Academy logo, the text 'SharePoint', and user options like 'Home', 'Staff', and 'Students'. Below this is a 'Students' sub-header with options for 'Not following', 'Share', and 'Next steps'. A search bar and 'Send by email' link are also present. The main content area features a large banner with the text 'Welcome to the Revision Centre' and a background image of a notebook with a red question mark and a stack of books. A left-hand navigation menu lists various revision resources: 'Induction Revision Ce...', 'GCSE Revision Centre', 'Sixth Form Revision C...', 'Health and Social Care', 'Careers For You', and 'Recycle bin'. The page is dated 'Published 23/09/2019'.

This screenshot shows a detailed view of a folder named 'Revision Packs' within the 'GCSE Revision > Science (Combined)' path. At the top, there is a breadcrumb trail: 'GCSE Revision > Science (Combined) > Revision Packs'. Below the breadcrumb, there is a table with a header 'Name' and a dropdown arrow. The table contains two entries, both represented by yellow folder icons: 'Activity Mats' and 'Knowledge Organisers'.



Combined Science Homework

Two types of homework, one of each per fortnight.

Class teacher homework

Learning homework



Supporting your child with Learning Homeworks

This is where you can really help your child prepare and revise for their GCSE:

- Get them to make flash cards on them.
- Test them verbally on these Qs.
- Get them to write out the answers and check answers.



P6 Intervention

Science – Thursdays.

Sessions to begin shortly – this will be communicated home.

Students will be invited to sessions that they should attend.



Triple Science

Students in sets 11SH & 11NH

These students will take 3 separate GCSEs,
Biology, Chemistry & Physics



Triple Science

For each subject:

- 2 papers of 1 hour 45 minutes
- each paper is 100 marks
- Different topics in Paper 1 & 2
- The three grades are totally independent



Triple Science

Classes have a specialist teacher for each of the three subjects.

4 hrs Biology

3 hrs Chemistry

3 hrs Physics



Triple Science



GCSE PHYSICS

(8463)

Specification

For teaching from September 2016 onwards
For exams in 2018 onwards

Version 1.1 30 September 2019



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AQA GCSE Physics – Equations & Formulae (specification 8463 & 8464)

Unit 1: Energy

Equations to Learn	
kinetic energy = $\frac{1}{2} \times \text{mass} \times \text{speed}^2$	$E_k = \frac{1}{2}mv^2$
GPE = mass × gravitational field strength × height	$E_p = mgh$
power = $\frac{\text{work done}}{\text{time taken}} = \frac{\text{energy transferred}}{\text{time taken}}$	$P = \frac{W}{t} = \frac{E}{t}$
efficiency = $\frac{\text{useful energy output}}{\text{total energy input}}$	
efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	
Equations given in the exam	
elastic potential energy = $0.5 \times \text{spring constant} \times (\text{extension})^2$	$E_e = \frac{1}{2}ke^2$
change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = mc\Delta\theta$

Unit 2: Electricity

Equations to Learn	
charge flow = current × time	$Q = I t$
potential difference = current × resistance	$V = I R$
total resistance = resistance of component 1 + resistance of component 2	$R_T = R_1 + R_2$
power = current × potential difference	$P = I V$
power = (current) ² × resistance	$P = I^2 R$
energy transferred = power × time	$E = P t$
energy transferred = charge flow × potential difference	$E = Q V$

* Higher tier only

^ Separate Physics only

Unit 3: Particle Model of Matter

Equations to Learn	
density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$
Equations given in the exam	
change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = mc\Delta\theta$
thermal energy for a change in state = mass × specific latent heat	$E = mL$
^ for a gas: pressure × volume = constant	$pV = \text{constant}$

Unit 6: Waves

Equations to Learn	
wave speed = frequency × wavelength	$v = f \lambda$
Equations given in the exam	
time period = $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$
^ magnification = $\frac{\text{image height}}{\text{object height}}$	$M = \frac{h_{\text{image}}}{h_{\text{object}}}$

Unit 7: Magnetism and Electromagnetism

Equations given in the exam	
* Force = magnetic flux density × current × length of conductor in magnetic field	$F = B I l$
potential difference across primary coil = $\frac{\text{potential difference across secondary coil}}{\text{number of turns in primary coil}} \times \text{number of turns in secondary coil}$	$\frac{V_p}{V_s} = \frac{N_p}{N_s}$
* ^ p.d. across primary × current in primary = p.d. across secondary × current in secondary	$V_p I_p = V_s I_s$

Unit 5: Forces

Equations to Learn	
weight = mass × gravitational field strength	$W = m g$
work done = force × distance (moved along the line of action of the force)	$W = F s$
force = spring constant × extension	$F = k e$
moment of a force = force × distance (perpendicular to the direction of the force)	$M = F d$
pressure = $\frac{\text{force normal to a surface}}{\text{area of that surface}}$	$p = \frac{F}{A}$
distance travelled = speed × time	$s = v t$
acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
= $\frac{\text{final velocity} - \text{initial velocity}}{\text{time taken}}$	$= \frac{v - u}{t}$
resultant force = mass × acceleration	$F = m a$
* momentum = mass × velocity	$p = m v$
Equations given in the exam	
* ^ Pressure = height of column × density of liquid × gravitational field strength	$p = h \rho g$
^ (final velocity) ² – (initial velocity) ² = 2 × acceleration × distance	$v^2 - u^2 = 2 a s$
* ^ Force = $\frac{\text{change in momentum}}{\text{time taken}}$	$F = \frac{m \Delta v}{t}$

Unit 4: Atomic Structure & Unit 8: Space

There are no equations in these sections of the course

Triple Science

2 Specification at a glance

This qualification is linear. Linear means that students will sit all their exams at the end of the course.

2.1 Subject content

1. [Energy](#) (page 17)
2. [Electricity](#) (page 23)
3. [Particle model of matter](#) (page 32)
4. [Atomic structure](#) (page 36)
5. [Forces](#) (page 43)
6. [Waves](#) (page 59)
7. [Magnetism and electromagnetism](#) (page 67)
8. [Space physics \(physics only\)](#) (page 72)



Triple Science

2.2 Assessments

Paper 1:
What's assessed Topics 1-4: Energy; Electricity; Particle model of matter; and Atomic structure.
How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 45 minutes• Foundation and Higher Tier• 100 marks• 50% of GCSE
Questions <ul style="list-style-type: none">• Multiple choice, structured, closed short answer and open response.

Paper 2:
What's assessed Topics 5-8: Forces; Waves; Magnetism and electromagnetism; and Space physics. Questions in paper 2 may draw on an understanding of energy changes and transfers due to heating, mechanical and electrical work and the concept of energy conservation from Energy (page 17) and Electricity (page 23).
How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 45 minutes• Foundation and Higher Tier• 100 marks• 50% of GCSE
Questions <ul style="list-style-type: none">• Multiple choice, structured, closed short answer and open response.



Triple Science

4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes

4.1.1.1 Energy stores and systems

Content	Key opportunities for skills development
<p>A system is an object or group of objects.</p> <p>There are changes in the way energy is stored when a system changes.</p> <p>Students should be able to describe all the changes involved in the way energy is stored when a system changes, for common situations. For example:</p> <ul style="list-style-type: none">• an object projected upwards• a moving object hitting an obstacle• an object accelerated by a constant force• a vehicle slowing down• bringing water to a boil in an electric kettle. <p>Throughout this section on Energy students should be able to calculate the changes in energy involved when a system is changed by:</p> <ul style="list-style-type: none">• heating• work done by forces• work done when a current flows	<p>The link between work done (energy transfer) and current flow in a circuit is covered in Energy transfers (page 29).</p> <p>WS 4.5</p>



Triple Science

Students need to know:

- Scientific content
- Required practicals
- How to use data
- Formulas (mainly physics)
- Equations (mainly chemistry)



Triple Science

Scientific content:

A lot of learning, simple recall,
knowing definitions and applications

*Flashcards, mind maps, revision
books*



Triple Science

Required practicals:

Understanding what is the purpose of a practical and how it is carried out.

Class practicals, online videos, single page summary sheets



Triple Science

Using data:

Questions give data in a table or graph, interpreting information, calculations using the data.

Past papers, revision books, online videos



Triple Science

Physics formulas and Chemistry equations:

Old fashioned learning of facts.

21 physics formulas

Know the units, conversions & rearranging formulas

Formula sheets, blind testing, past paper questions



Thank you for your time

You are more than welcome to ask any questions.

Please feel free to make additional enquiries via email to:
enquiries@belfairsacademy.org.uk



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