

Combined Science

Combined: Biology

Biology Paper 1

What's assessed

Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed :

Biology Paper 2

What's assessed

Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Chemistry Paper 1

What's assessed

Chemistry topics 8–12: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, and open response.

**Combined:
Chemistry**

Chemistry Paper 2

What's assessed

Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources.

Questions in Paper 2 may draw on fundamental concepts and principles from Sections 5.1 to 5.3.

How it's assessed

- Written exam: 1 hour 15 minutes
- Foundation and Higher Tier
- 70 marks
- 16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Physics Paper 1	
What's assessed	Physics topics 18–21: Energy; Electricity; Particle model of matter; and Atomic structure.
How it's assessed	• Written exam: 1 hour 15 minutes • Foundation and Higher Tier • 70 marks • 16.7% of GCSE

Combined: Physics

Physics Paper 2	
What's assessed	Physics topics 22–24: Forces; Waves; and Magnetism and electromagnetism
How it's assessed	• Written exam: 1 hour 15 minutes • Foundation and Higher Tier • 70 marks • 16.7% of GCSE
Questions	Multiple choice, structured, closed short answer, and open response.

Triple Biology

Paper 1

What's assessed

Topics 1–4: Cell biology; Organisation; Infection and response; and Bioenergetics.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

Multiple choice, structured, closed short answer and open response.



Paper 2

What's assessed

Topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50 % of GCSE

Questions

Multiple choice, structured, closed short answer and open response.

Triple Chemistry

Paper 1:

What's assessed

Topics 1–5: Atomic structure and matter; Quantitative chemistry, Chemical reactions

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50% of GCSE

Questions

Multiple choice, structured, closed



Paper 2:

What's assessed

Topics 6–10: The rate and extent of chemical change; Organic chemistry; Chemical analysis, Chemistry of the atmosphere; and Using resources.

Questions in Paper 2 may draw on fundamental concepts and principles from sections 4.1 to 4.3.

How it's assessed

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50% of GCSE

Questions

Multiple choice, structured, closed short answer and open response.

Triple Physics

Paper 1:

What's assessed

Topics 1-4: Energy; Electricity

How it's assessed

- Written exam: 1 hour
- Foundation and Higher Tier
- 100 marks
- 50% of GCSE

Questions

- Multiple choice, structured



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

- Written exam: 1 hour 45 minutes
- Foundation and Higher Tier
- 100 marks
- 50% of GCSE

Questions

- Multiple choice, structured, closed short answer and open response.

Remember the **working scientifically** section!

1 Development of scientific thinking

Students should be able to:
WS 1.1 Understand how scientific theories develop over time.

3 Analysis and evaluation

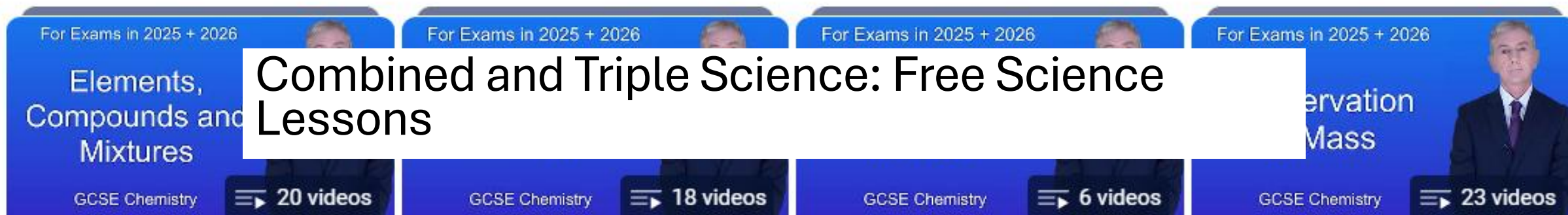
Apply the cycle of collecting, presenting and analysing data, including:

4 Scientific vocabulary, quantities, units, symbols and nomenclature

2 Experimentation

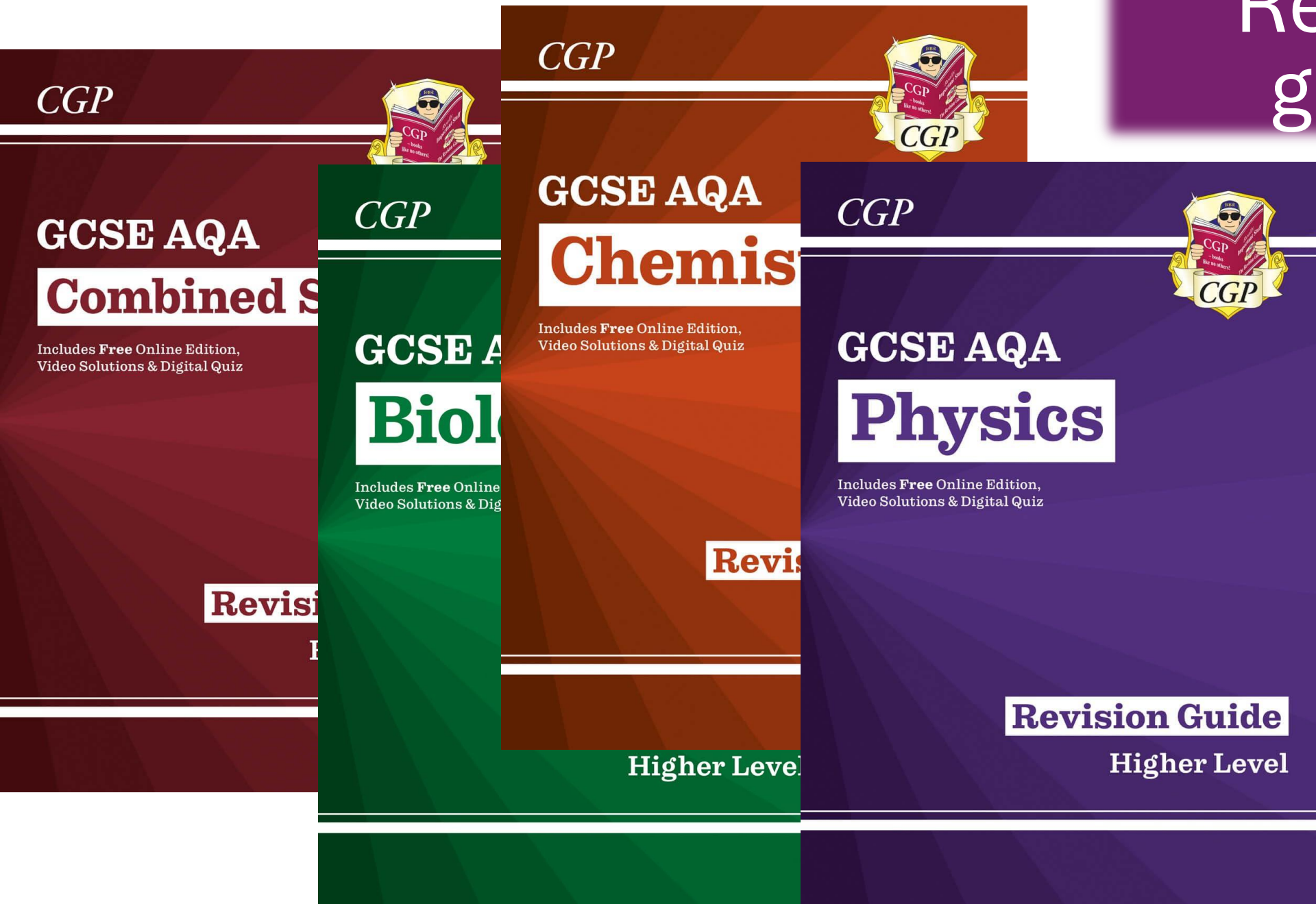
Students should be able to:
WS 2.1 Use scientific methods to develop hypotheses.

Students should be able to:	Examples of what students could be asked to do in an exam
WS 4.1 Use scientific vocabulary, terminology and definitions.	The knowledge and skills in this section apply across the specification, including the required practicals.
WS 4.2 Recognise the importance of scientific	



BBC Bitesize

Revision guides





The Specification:

COMBINED



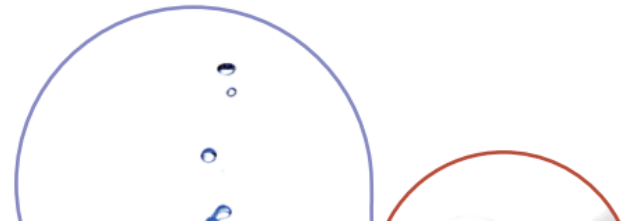
GCSE COMBINED SCIENCE: TRILOGY

(8464)

Specification

For teaching from September 2016 onwards
For exams in 2018 onwards

Version 1.1 04 October 2019



The Specification:

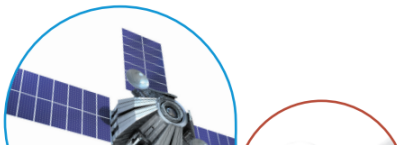
TRIPLE



GCSE PHYSICS (8463)

Specification
For teaching from September 2016 onwards
For exams in 2018 onwards

Version 1.1 30 September 2019



GCSE CHEMISTRY (8462)

Specification
For teaching from September 2016 onwards
For exams in 2018 onwards

Version 1.1 04 October 2019



GCSE BIOLOGY (8461)

Specification
For teaching from September 2016 onwards
For exams in 2018 onwards

Version 1.0 21 April 2016



How to create revision cards in science...

Step 1 Select the content

4.1.1 Cell structure

4.1.1.1 Eukaryotes and prokaryotes

Content

Plant and animal cells (eukaryotic cells) have a cell membrane, cytoplasm and genetic material enclosed in a nucleus.

Bacterial cells (prokaryotic cells) are much smaller in comparison. They have cytoplasm and a cell membrane surrounded by a cell wall. The genetic material is not enclosed in a nucleus. It is a single DNA loop and there may be one or more small rings of DNA called plasmids.

Students should be able to demonstrate an understanding of the scale and size of cells and be able to make order of magnitude calculations, including the use of standard form.

Step 2

Create a question and write it on one side of your revision card

Step 3

Use your CGP Revision guide to write the answer to the question on the other side



ALKANES + ALKENES

□ What are the 4 substances we must know for this topic?
- What's the formula for naming alkanes?

□ What's the formula for naming alkenes?

□ What bonds do alcohols have? (functional group)

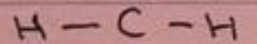
□ What's the functional group for carboxylic acids?

□ What's the functional group for esters?

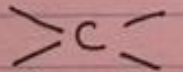
□ What are properties of alcohols?

□ Methane, Ethane, Propane, Butane

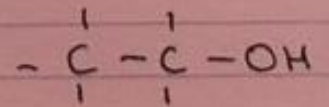
C_nH_{2n+2} (methane = C_1H_4)



□ C_nH_{2n} (methane can't be an alkene)
(ethene = C_2H_4)



□ All alcohols have -OH bonds



□ -COOH (ethanoic acid)

□ -COO (ethyl ethanoate)

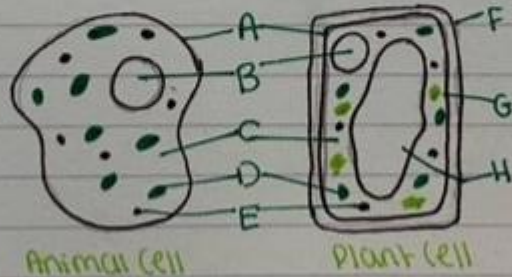
□ Dilute in water, react with sodium to produce hydrogen, flammable, make a pH 7 when in water.

CELL BIOLOGY: Biology Paper 1

Eukaryotes & Prokaryotes

What are eukaryotes?

What are prokaryotes?



Animal Cell

Plant Cell

Name the sub-cellular structures and state function.

Eukaryotes: Bigger + complex than prokaryotes. They have a nucleus which contains their genetic material.

Prokaryotes: Smaller + simpler. They contain genetic material in a single loop of DNA and various number of plasmids.

Cell membrane: controls what enters/leaves the cell (A)

Nucleus: contains genetic material and controls activities of cell (B)

Cytoplasm: liquid which contains all the organelles and where all the chemical reactions take place (C)

Mitochondria: site of aerobic respiration (D)

Ribosomes: makes protein for protein synthesis (E)

Cell wall: made of cellulose. Strengthens and supports the cell (F)

Chloroplasts: ^{absorbs} light for photosynthesis. Contains chlorophyll (G)

Vacuole: contains cell sap - dilute solution of sugar and salts. Give (H) cell its shape

How to use revision cards in science...

Test yourself

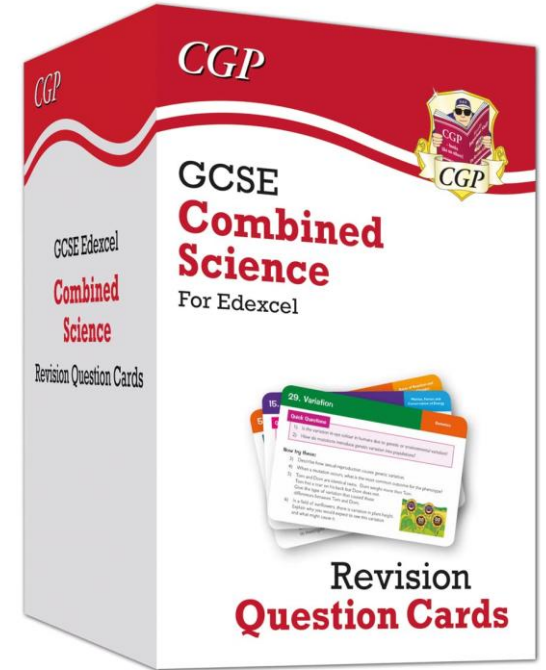
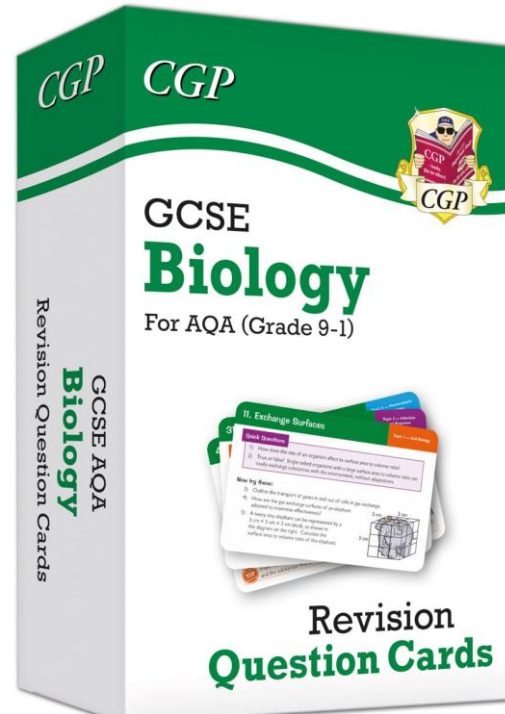
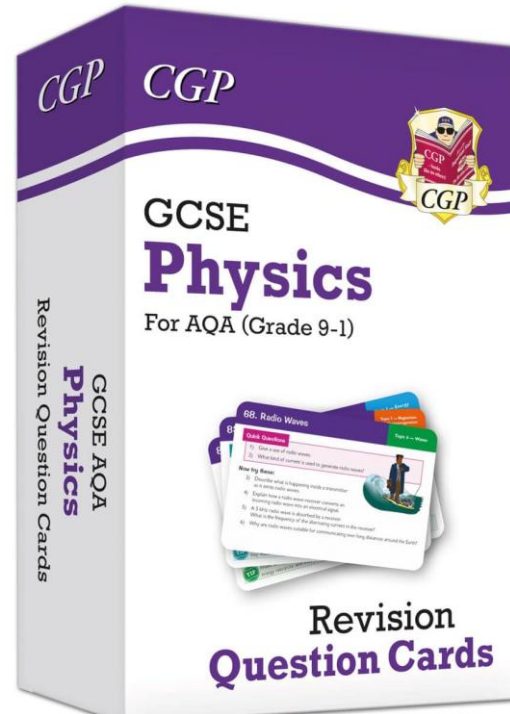
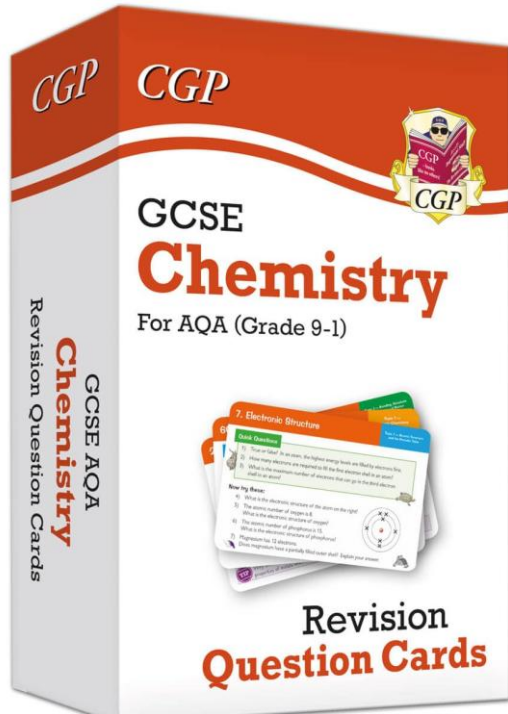
1. Get someone to ask you the question e.g. Cell Biology.

OR

2. The ones you get correct put on the right

3. The ones you get wrong place on the left

4. Keep repeating this process until you have no revision cards on the left!



CGP Flashcards

Physics Equation Sheets

kinetic energy = $0.5 \times \text{mass} \times (\text{speed})^2$	$E_k = \frac{1}{2} m v^2$
elastic potential energy = $0.5 \times \text{spring constant} \times (\text{extension})^2$	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = $\text{mass} \times \text{gravitational field strength} \times \text{height}$	$E_p = m g h$
change in thermal energy = $\text{mass} \times \text{specific heat capacity} \times \text{temperature change}$	$\Delta E = m c \Delta \theta$
power = $\frac{\text{energy transferred}}{\text{time}}$	$P = \frac{E}{t}$
power = $\frac{\text{work done}}{\text{time}}$	$P = \frac{W}{t}$
efficiency = $\frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$	
efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	
charge flow = $\text{current} \times \text{time}$	$Q = I t$
potential difference = $\text{current} \times \text{resistance}$	$V = I R$
power = $\text{potential difference} \times \text{current}$	$P = V I$
power = $(\text{current})^2 \times \text{resistance}$	$P = I^2 R$

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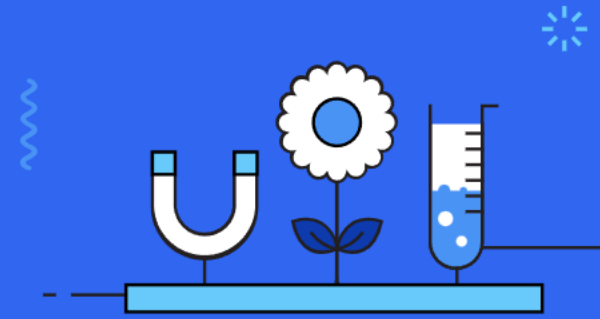


GCSE

Combined Science - AQA Trilogy

Easy-to-understand homework and revision materials for your GCSE
Combined Science AQA Trilogy '9-1' studies and exams

Part of Combined Science



revision science

PHYSICS & MATHS TUTOR

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SHOP

TEACHERS' AREA

CONTACT



MALMESBURY SCHOOL

WWW.COGNITOEDU.ORG

FOR SCIENCE AND MATHS

Your next steps...

Complete all Seneca Learning Homework

Use your CGP Revision guide as you're working through your Seneca learning

Create a revision timetable (Include enough time for the 3 sciences!!!)

Know your command words (emailed out to you)

Make notes whilst watching the clips (e.g. free science lessons)

Make and use revision cards (use the spec)

Use graphic organisers

Attend after school revision classes.

Complete practice questions and past papers.