

SCIENCE

MATHS

ENGLISH

Mr Thurley

Miss Gardner

Ms Edwards

SCIENCE

How the new grades compare with the old ones

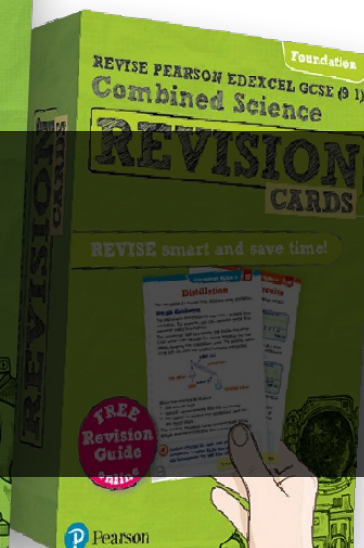
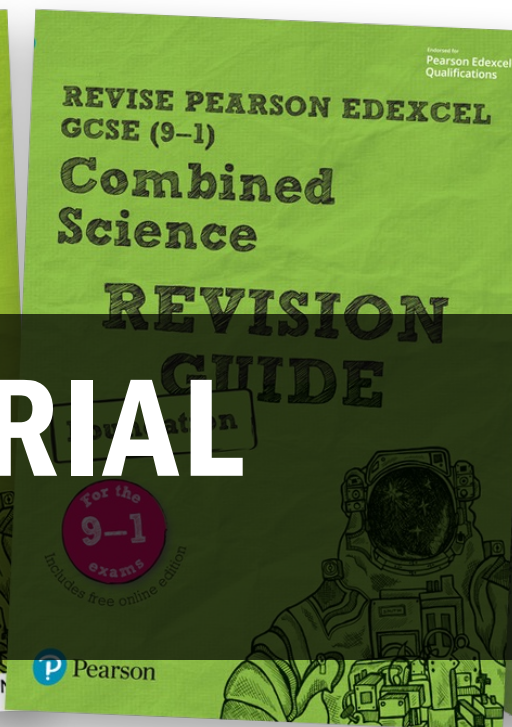
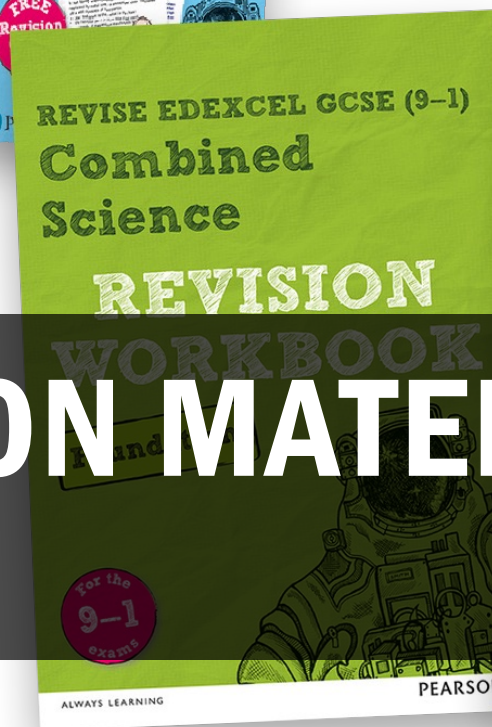
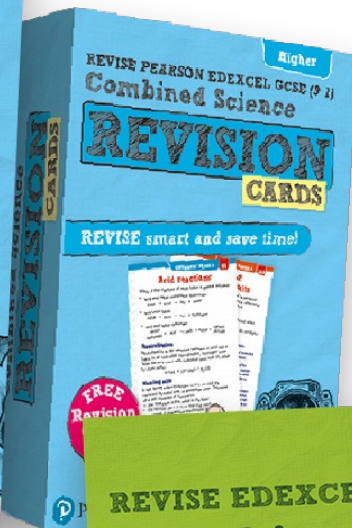
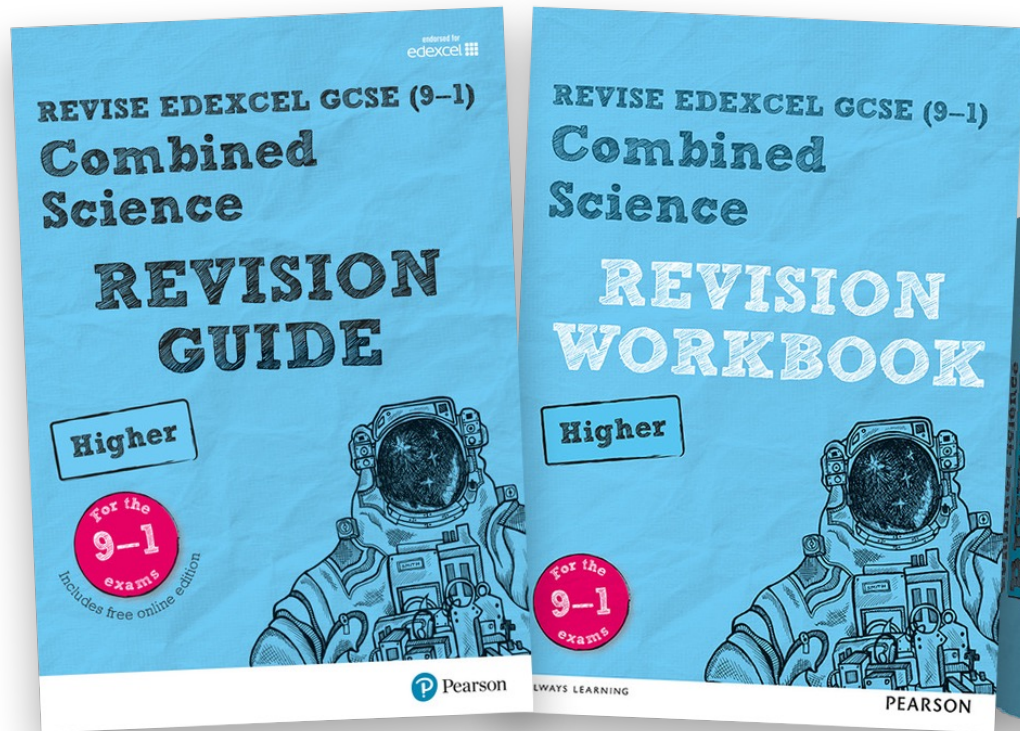
Old grades	New grades
A*	9
	8
	7
A	6
B	5 STRONG PASS
	4 STANDARD PASS
C	
D	3
E	2
F	
G	1
U	
	U

Higher

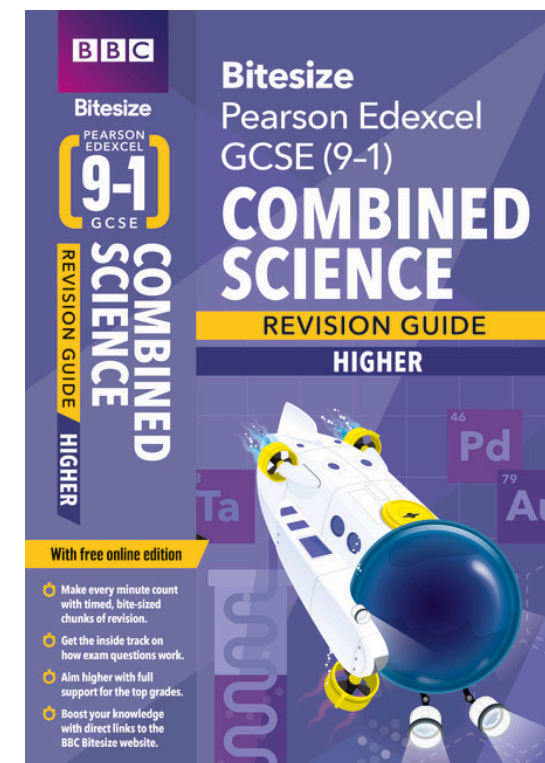
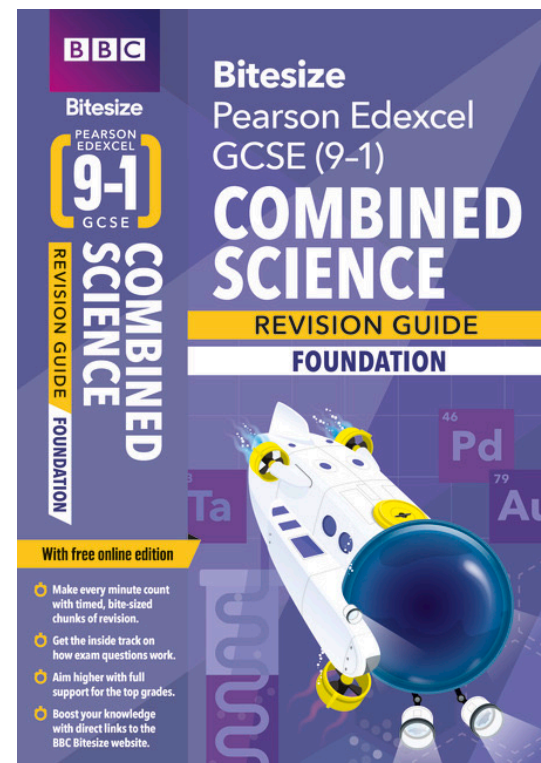
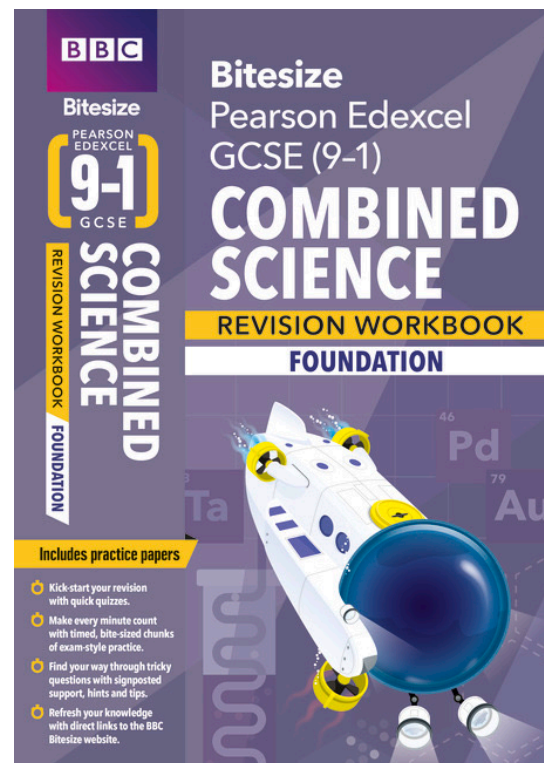
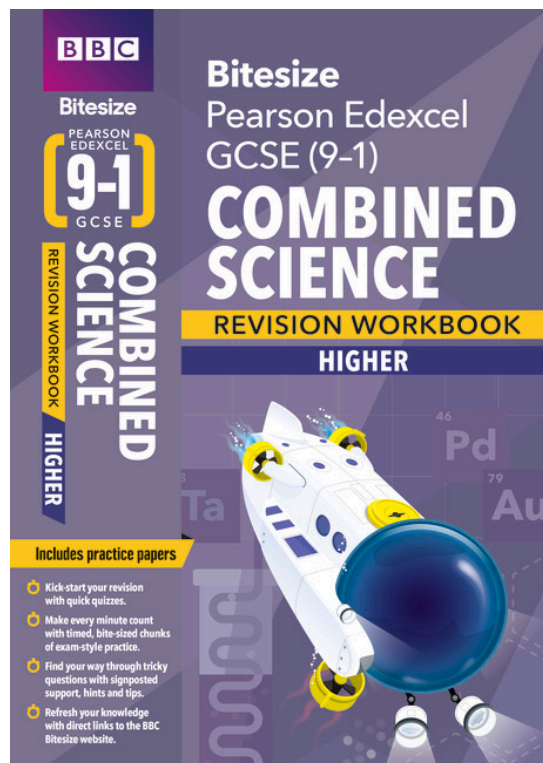
June 2022 - Grade Boundaries		
9-9	266	74%
9-8	249	69%
8-8	232	64%
8-7	215	60%
7-7	198	55%
7-6	180	50%
6-6	162	45%
6-5	144	40%
5-5	126	35%
5-4	108	30%
4-4	90	25%
4-3	81	23%
3-3		
3-2		
2-2		
2-1		
1-1		
U	0	0%

Foundation

June 2022 - Grade Boundaries		
9-9		
9-8		
8-8		
8-7		
7-7		
7-6		
6-6		
6-5		
5-5	203	56%
5-4	183	51%
4-4	164	46%
4-3	141	39%
3-3	118	33%
3-2	96	27%
2-2	74	21%
2-1	52	14%
1-1	30	8%
U	0	0%





REVISION MATERIAL




REVISION MATERIAL

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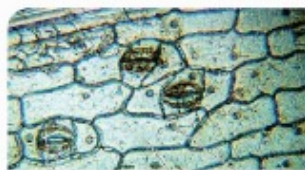
[learn more](#)



Chat with support

Progression questions

- How are animal cells different to plant cells?
- What do the sub-cellular structures in eukaryotic cells do?
- How can we estimate the sizes of cells and their parts?



two guard cells (form a stoma in the surface of a leaf) leaf surface cell nucleus

A This micrograph (microscope picture) was taken using Brown's original microscope, of the same cells in which he discovered nuclei (magnification $\times 67$).

The **cell membrane** is like a very thin bag. It controls what enters and leaves, and separates one cell from another.

The **cytoplasm** contains a watery jelly and is where most of the cell's activities occur.

One of these blobs is a **mitochondrion** (see photo C). Mitochondria are jelly-bean shaped structures in which **aerobic respiration** occurs. Mitochondria are very difficult to see with a light microscope.

2 Draw a table to show the parts of an animal cell and the function of each part.

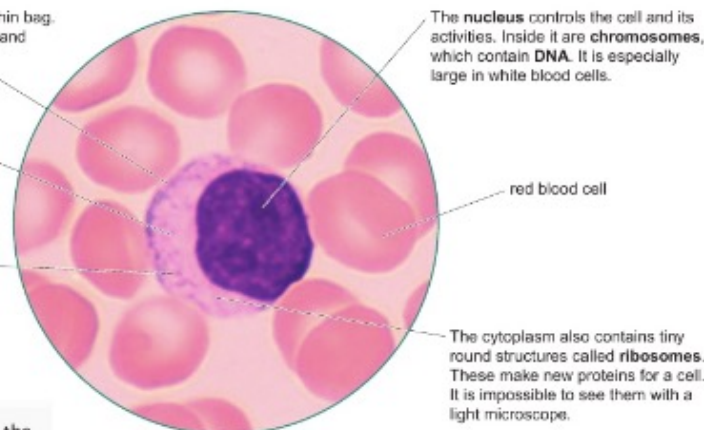
3 Estimate the diameter of the labelled red blood cell in photo B. Show your working.

As microscopes improved, scientists saw more details inside cells. In 1828, Robert Brown (1773–1858) examined cells from the surface of a leaf and noticed that each cell contained a small, round blob. He called this the **nucleus** (meaning 'inner part' in Latin).

1 Photo A is at a magnification of 67. State what this means.

Brown wrote a **scientific paper** about his discovery. Matthias Schleiden (1804–1881) read the paper and thought that the nucleus must be the most important part of a plant cell. He mentioned this idea to Theodor Schwann (1810–1882), who then wondered if he could find cells with nuclei in animals. He did. And so the idea of cells being the basic building blocks of all life was born.

A cell with a nucleus is described as **eukaryotic**. We have now discovered many other sub-cellular ('smaller than a cell') structures in eukaryotic cells and worked out what they do.



B The labelled central cell is a human white blood cell, which has been stained to make its features show up clearly (magnification $\times 2500$).

The circular area you see in a light microscope is the **field of view**. If we know its diameter, we can estimate sizes. The diameter of the field of view in photo B is $36\text{ }\mu\text{m}$. We can imagine that three white blood cells will roughly fit across the field of view. So the cell's diameter is about $\frac{36}{3} = 12\text{ }\mu\text{m}$.

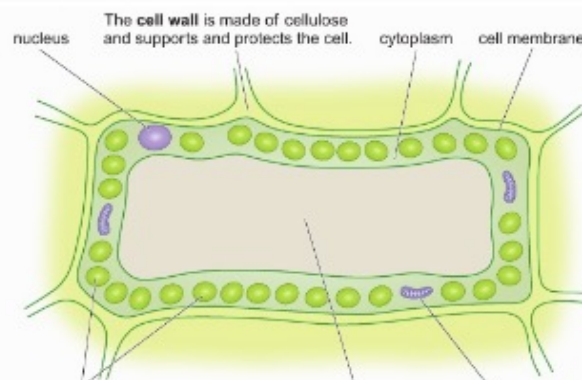
Electron micrographs

Photo C shows many parts inside a white blood cell that you cannot see with a light microscope. However, you still cannot see ribosomes because they are only about 25 nm in diameter.

- Look at photo C. What part has been coloured purple?
- Use the magnification to estimate the width of the cell.
- State the diameter of a ribosome in micrometres.

Scale bars are often shown on micrographs and these are also used to estimate sizes. The scale bar on photo C shows how long $4\text{ }\mu\text{m}$ is at this magnification. About three of these bars could fit across the cell at its widest point; the cell is about $3 \times 4 = 12\text{ }\mu\text{m}$ wide.

Plant cells may have some additional structures compared with animal cells, as shown in diagram D.



The **chloroplasts** contain **chlorophyll**, which traps energy transferred from the Sun. The energy is used for photosynthesis.

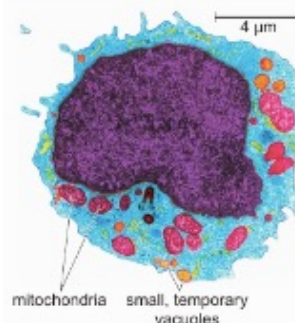
Plant cells have a large, permanent **vacuole** which stores **cell sap** and helps to keep the cell firm and rigid.

D a cell from inside a plant leaf

- Look at diagram D. What is part X?
- Cells on leaf surfaces contain vacuoles and carry out aerobic respiration but are not green. Suggest what part they lack. Explain your reasoning.

Exam-style question

Describe the function of chloroplasts in a leaf palisade cell. (3 marks)



C electron micrograph of a white blood cell (magnification $\times 4200$)

Did you know?

The pigment in human skin is made in sub-cellular structures called **melanosomes**.

- Use the scale bar on photo C to estimate the:
 - width of the nucleus at its widest point
 - length of the longest mitochondrion (coloured red).

Checkpoint

How confidently can you answer the Progression questions?

Strengthen

S1 Draw a plant cell and label its parts, describing what each part does.

Extend

E1 An 'organelle' is a structure inside a cell with a specific function. Compare the organelles found in plant and animal cells.



2 Draw a table to show the parts of an animal cell and the function of each part.

Hide

Show



2 Draw a table to show the parts of an animal cell and the function of each part.

Hide



2

Part	Functions
cell membrane	controls what enters and leaves; separates cells
nucleus	controls the cell and its activities
cytoplasm	where the cell's activities occur
mitochondria	release energy/where aerobic respiration occurs
ribosomes	make new proteins

Hide



SCIENCE REVISION & SUPPORT

2023-2024





Miss Kelsey – room 37

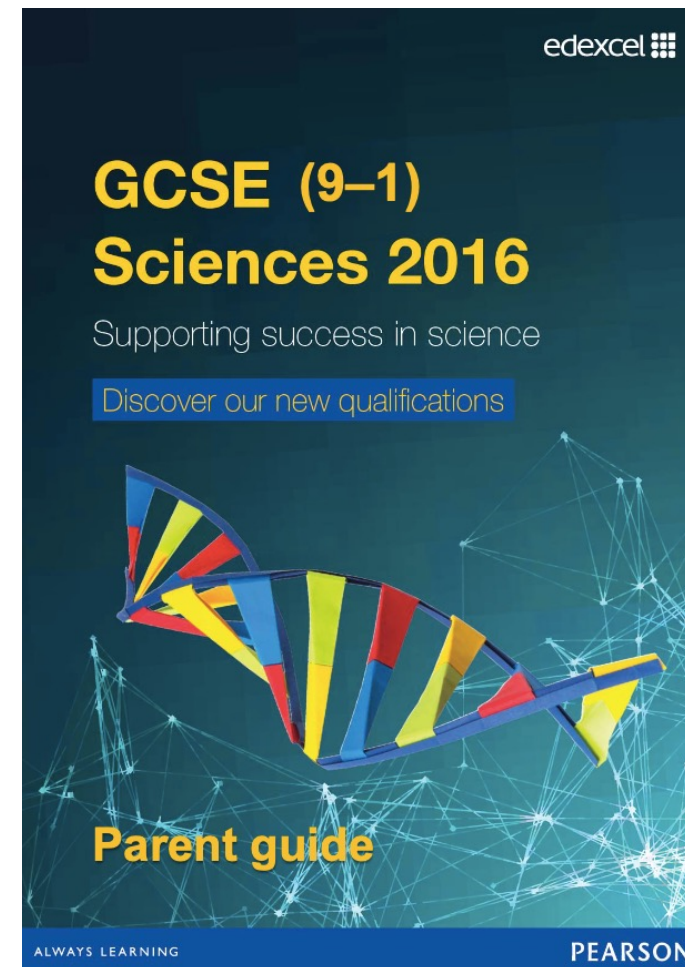
Y11 SCIENCE – MONDAY
AFTER SCHOOL 3:15 – 4:00



Y10 CHEMISTRY – TUESDAY
AFTER SCHOOL 3:15 – 4:00

KS3 SCIENCE – THURSDAY
LUNCHTIME 12:45 – 1:10





MATHS

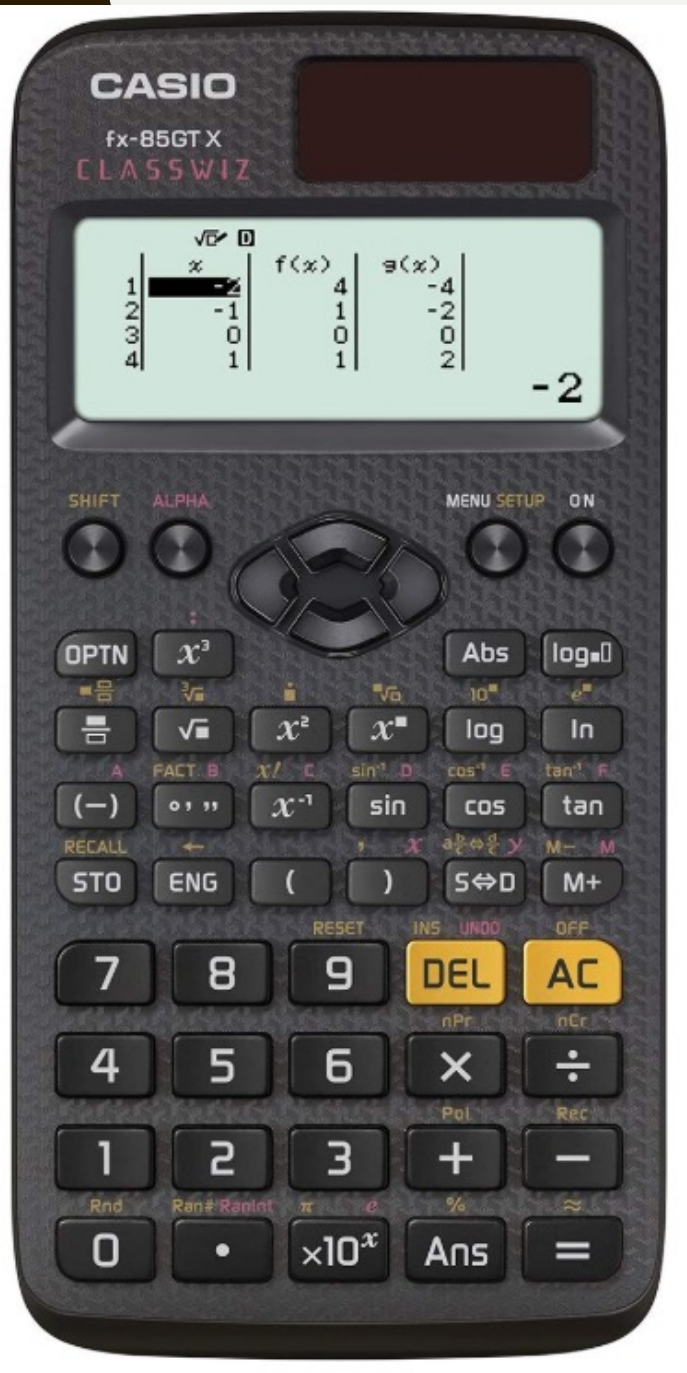
WJEC is the Welsh Exam Board and is graded A* to G.



THE TIERS

There are 3 tiers in WJEC Mathematics:

- Higher (Grades A*-C) Sets 1, 2
- Intermediate (Grades B-E) Sets 3, 4
- Foundation (D-G) Set 5



EQUIPMENT

Students will need the following equipment in order to be successful in both lessons and during exams.

- Black Pen (Ball-point for exam requirement)
- Pencil
- Ruler (30cm)
- Protractor
- Compass
- Scientific Calculator (Recommended a CASIO FX – 83GT – X)

It is important that students are regularly attending lessons with the correct equipment so they know how to use it in the exam.

Scientific calculators and full geometry kits can be bought from the school reception.

THE PAPERS

PAPER 1

1 hour 45 minutes for Higher and Intermediate

1 hour 30 minutes for foundation

80 marks

50% of your grade

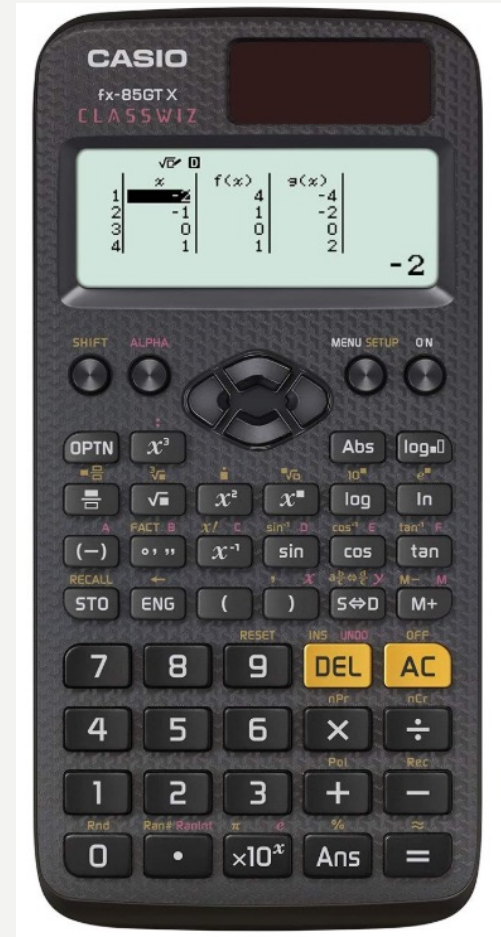
Calculator not allowed



THE PAPERS

PAPER 2

- 1 hour 45 minutes for Higher and Intermediate
- 1 hour 30 minutes for foundation
- 80 marks
- 50% of your grade
- **Calculator Paper**



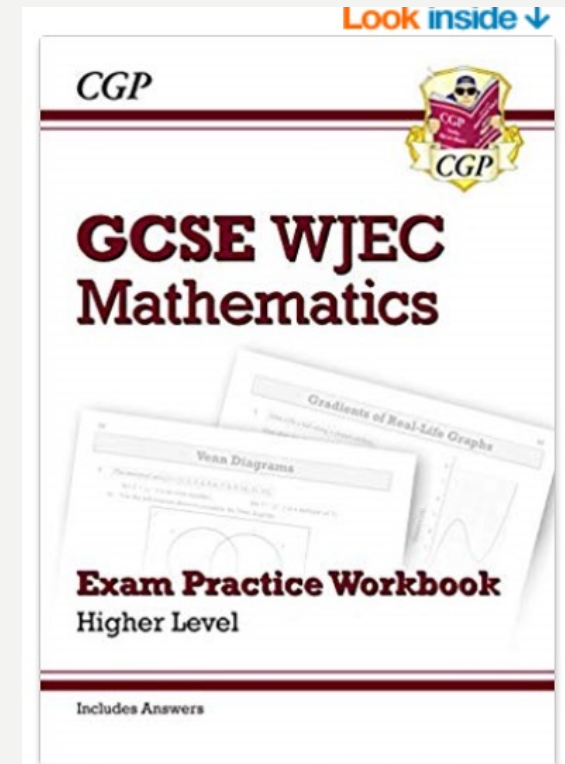
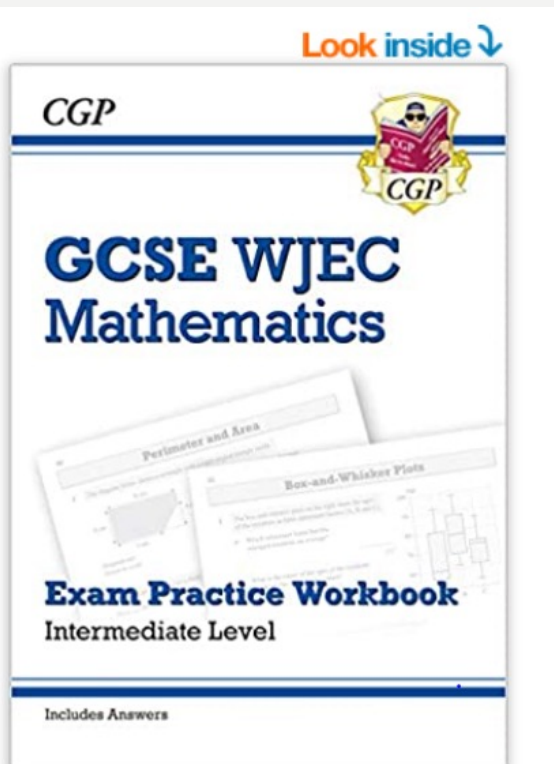
QWC

There are 2 marks available in WJEC for Quality of Written Communication (QWC).

QWC marks are awarded for how the students have explained their answers. Examiners are not looking for paragraphs but they will be focusing on how they have presented the answers (logical manner, correct use of mathematical symbols, all workings shown) and how they have explained their steps (have they made it clear what they are doing, have they used correct punctuation and spellings)

SUPPORT AND REVISION

- Sparx Maths using the independent learning button
- Revision Workbooks can be found in most book shops and on Amazon
 - Practise past papers as many as you can!
 - Learn your formulas!
 - revisegcsemaths.co.uk





Compulsory



XP Boost



Target

Independent
Learning

Hey Sarah,

This is your personalised Compulsory homework. You need to answer every question correctly to complete it.

0/1

▼ Introducing Sparx Maths

Not started

Independent Learning

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Enter topic name or code

Your curriculum:

GCSE

Default level:

Level 3

Select a topic:

Number



Algebra



Ratio and Proportion



Geometry



Probability



Statistics



CAMBRIDGE IGCSE ENGLISH LANGUAGE AND EDUQAS LITERATURE

THE EXAMS INFORMATION



LANGUAGE PAPER 1 – READING PAPER

- **Comprehension Skills**
- **Summary Writing Skills**
- **Analysis skills**
- **Extended response task**

PAPER 2 – WRITING PAPER

- **Directed writing**
- **A choice of narrative or descriptive writing**

ENGLISH LITERATURE (GRADES 9 – 1)

- **Paper 1**

Macbeth and Poetry Anthology

- **Paper 2**

Inspector Calls, Jekyll and Hyde and Unseen Poetry

How can you help?



Read. Have books around the house. Take your teenager to the library. Be seen reading. Nothing will prepare your child better for the English exams than reading daily for at least 20 minutes.

And if you can find books that interest your child, all the better!

Revision books can be purchased from Amazon and other book sellers. We recommend CGP books for Literature as they are well structured with questions to practice.





Encourage your child to keep a diary. No one has to read it. A daily exercise in writing, even without feedback or 'marking' will improve a student's style greatly.

There are plenty of writing prompts online if your child suffers from writer's block!



Does your child know the basics? Good punctuation, varied vocabulary and using subordinating conjunctions? These three skills are key focuses in the Language exam.

Consider purchasing a 'basics' revision workbook for your child and work through once a week.

IN SCHOOL SUPPORT

Mondays – Drop-In English Clinic

1-1:30pm in room D22

with Miss Nickson

Wednesdays – Time Trials

1515 – 1615 in D25

with Ms Edwards

Year 11 Revision Google Classroom

Class code :

Class code



dgvh2ym



COPS AND ROBBERS RESOURCE

I. In the Cops section write down either:

Everything you can remember about the character Macbeth – quotes, character trait , plot

OR

List as many techniques/ structural devices you can think of.