



**Soar Valley College**

A SPECIALIST MATHS AND COMPUTING COLLEGE

**SCIENCE**

**ASPIRE ENJOY ACHIEVE**



## GCSE Combined Science Trilogy Course

Most students will achieve 2 GCSE's

### The Exams

Six papers:

2 Biology

2 Chemistry

2 Physics

Duration:

All exam papers are 1 hour  
and 15 minutes.

Weighting:

Each paper is worth 16.7% of  
the grade and has 70 marks.

Question types:

Multiple choice

Structured closed questions

Short answer

Open response



## GCSE Separate Science Course

Students will achieve 3 GCSE's

### The Exams

Six papers:

2 Biology

2 Chemistry

2 Physics

Duration:

All exam papers are 1 hour  
and 45 minutes.

Weighting:

Each paper is worth 50% of  
the grade and has 100 marks.

Question types:

Multiple choice

Structured closed questions

Short answer

Open response

Mathematical problems



## *Trilogy Science*

- Over 3700 subject specific words
- **Huge** content to learn
- **Practice** the skills
- 21 Practical assessments



# GCSE Combined Science: Trilogy

## Summary of content

### Exams

#### Paper 1

Topic 1 to 4

#### Paper 2

Topic 5 to 7

### Biology

1. Cell Biology
2. Organisation
3. Infection & response
4. Bioenergetics
5. Homeostasis & response
6. Inheritance, variation & evolution
7. Ecology



# GCSE Combined Science: Trilogy

## Summary of content

### Exams

#### Paper 1

Topic 1 to 5

#### Paper 2

Topic 6 to 10

(Topic 1 to 3 on both)

### Chemistry

1. Atomic structure & periodic table
2. Bonding, structure & properties of matter
3. Quantitative chemistry
4. Chemical changes
5. Energy changes
6. The rate & extent of chemical change
7. Organic chemistry
8. Chemical analysis
9. Chemistry of the atmosphere
10. Using resources



# GCSE Combined Science: Trilogy

## Summary of content

### Exams

#### Paper 1

Topic 1 to 4

#### Paper 2

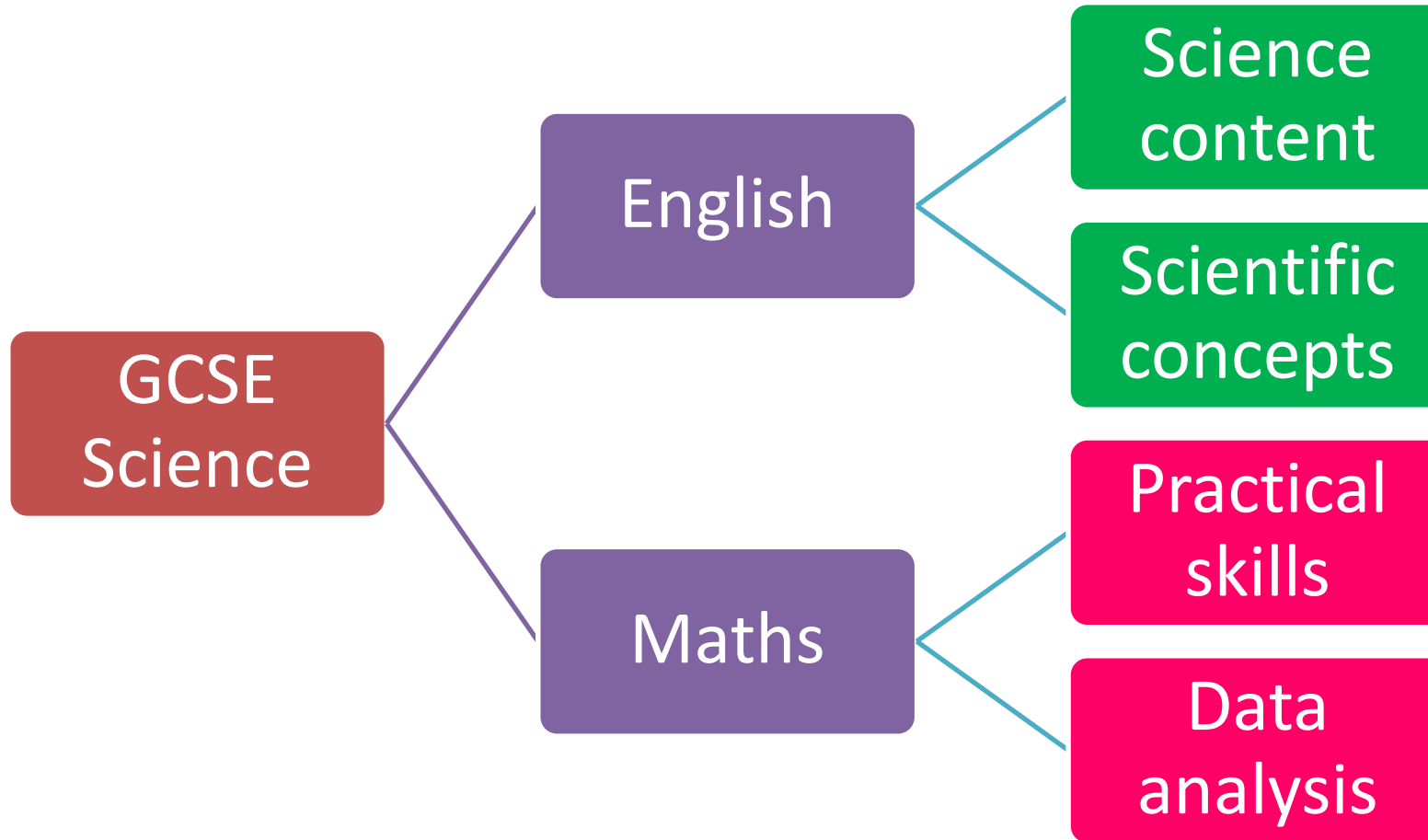
Topic 5 to 7

### Physics

1. Forces
2. Energy
3. Waves
4. Electricity
5. Magnetism & electromagnetism
6. Particle model of matter
7. Atomic structure



# GCSE Combined Science: Trilogy







## GCSE Combined Science: Trilogy

**Types of  
questions on  
Science exams**

Question scaffolding  
Multiple choice questions  
Link box  
Sentence completion  
Short answer  
Calculations  
Labelling and drawing diagrams  
Graphs  
Chemical equations  
Extended response  
Practical skills

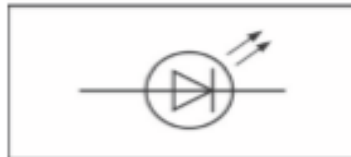
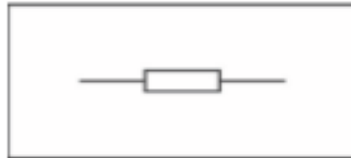
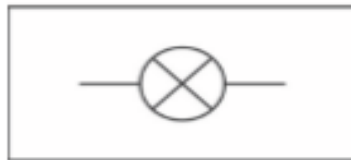


## Link box question

**0 5** . **1** Draw **one** line from each symbol to the name of the component.

[3 marks]

Standard symbol



Name of component

Battery

Switch

Lamp

Resistor

LED



## Calculation question

All radio waves travel at 300 000 000 m/s in air.

- (i) Give the equation that links the frequency, speed and wavelength of a wave.

.....

(1)

- (ii) Calculate the wavelength, in metres, of a radio wave which is broadcast at a frequency of 909 kHz. Show clearly how you work out your answer.

.....  
.....  
.....

Wavelength = ..... metres

(2)

(Total 3 marks)

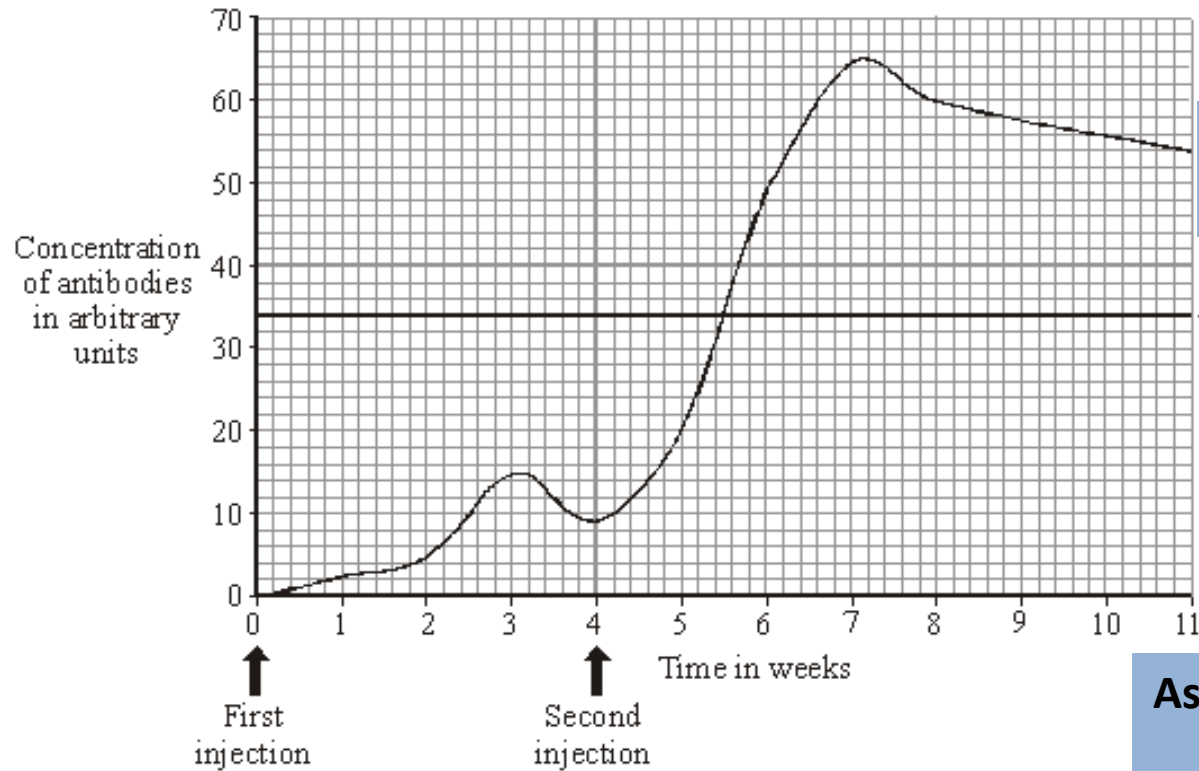


## Graph question

(b) Vaccination protects us from pathogens.

The graph shows the concentration of antibodies in the blood of a person after two injections of vaccine given four weeks apart.

Q4 D/E



Analysis, **mathematical** & graphical skills

Minimum needed for protection against the pathogen

Ask students to explain what the graph is telling them.

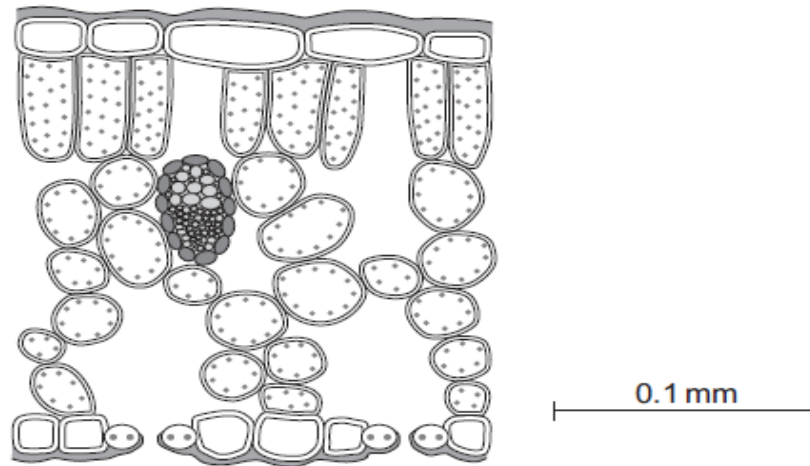


## Extended response question

- 1 (c) *In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.*

Diagram 2 shows a section through a plant leaf.

Diagram 2



### English skills

Students must be able to write coherently and use a large number of technical terms correctly.

Describe the structure of the leaf and the functions of the tissues in the leaf.

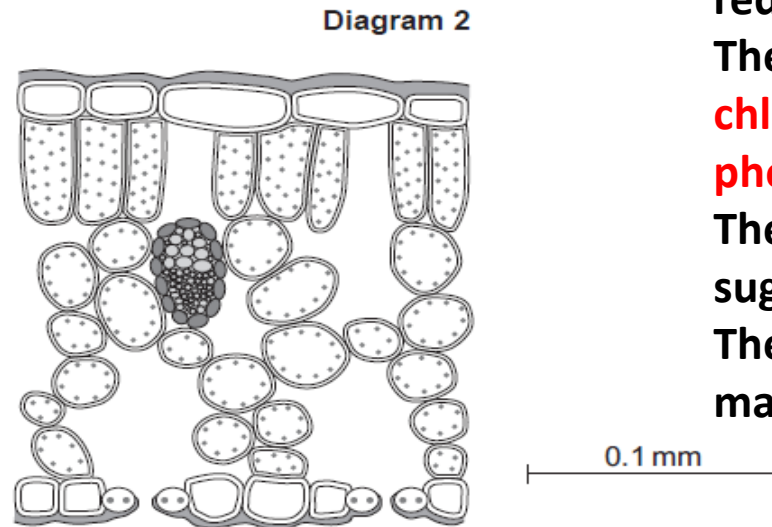
You should use the names of the tissues in your answer.



## Extended response question

- 1 (c) *In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.*

Jan 13HT **Diagram 2** shows a section through a plant leaf.



The **epidermis** covers the plant leaf to reduce water loss.

The **palisade mesophyll** cells have lots of **chloroplasts** to help trap light energy for **photosynthesis**.

The **phloem** and **xylem** are to transport sugars and ions around the plant.

The **spongy mesophyll** has large airspaces to maximise **diffusion**.

Describe the structure of the leaf and the functions of the tissues in the leaf.

You should use the names of the tissues in your answer.



## Practical skills question

0 8

A student used chromatography to identify the pigments in spinach leaves.

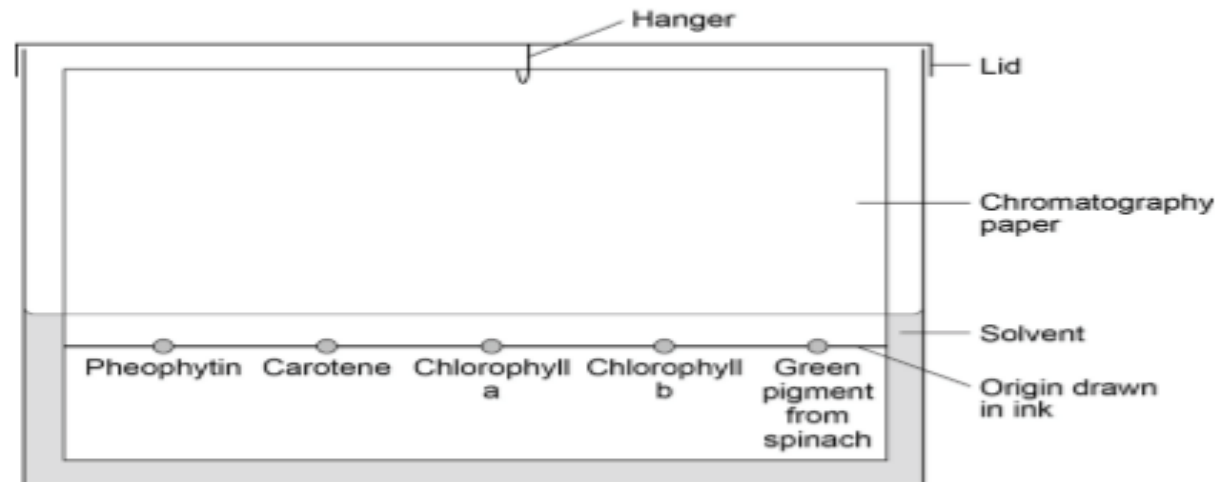
She compared a sample of pigment with some known pigments.

0 8

. 1

Figure 11 shows the apparatus the student set up.

Figure 11



The student made **two** mistakes when she set up the apparatus.

Identify the **two** mistakes.

For each mistake, explain how the mistake would affect the results.

[4 marks]



## Specific Science support

1. Websites to use are on the school website
2. Specific support via **Kerboodle**
3. Attending revision classes after school on **Tuesday**
4. Revision guides
5. Workbooks and practice questions
6. Key words and definitions
7. SAM learning
8. GCSEpod







## How can you support?

### Top tips:

1. Ask **them to teach** you & **explain** the notes they have taken.
2. Use the websites provided to **go over** the weaker areas.
3. Ask them to **show** you their notes/ proof of revision.
4. Make sure that a couple of times a week they **practice** what they have learnt with a relevant exam question





## Year 11 key dates

Key dates	
October 29 <sup>th</sup> 2019	Parents' information evening
November 25 <sup>th</sup> 2019	Mock Exams Week 1
December 2 <sup>nd</sup> 2019	Mock Exams Week 2
January 21 <sup>st</sup> 2020	Mock Results Day
<b>January 23<sup>rd</sup> 2020</b>	<b>Parents' Evening</b>
February 10 <sup>th</sup> 2020	Targeted Mock Exam Week
March 16 <sup>th</sup> 2020	Food Exam Week
March 27 <sup>th</sup> 2020	Yr. 11 Reports home
April 6 <sup>th</sup> 2020	Easter Revision Begins
May 11 <sup>th</sup> 2020	Yr. 11 Exams Begin
24 <sup>th</sup> June 2020	Contingency exam day



# Parents can help enormously

Parental support is 8 times more important in determining a child's academic success than social class (Campaign for Learning research)



# Memory quiz

- Banana
- Pen
- Car
- Tree
- Humans
- Bottle
- Brain
- Coat
- Bear
- Apple
- Orange
- Hippocampus
- Yellow
- Clover
- Human
- How many do you remember now?
- Would you remember in a week?





# Thank you for your support

- Please collect the Year 11 Supporting Your Child leaflet to Prepare for Exams if you have not already done so



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## Supporting Your Child to Prepare for Exams



### Top tips for parents:

1. Get your child to teach you about the subject or explain the notes they have taken. You don't have to be a subject expert, but students teaching you is a really powerful way of demonstrating what they have learned and