

How to help your child succeed at GCSE Maths

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What you need to know

- What has changed since the 'old' A* - G GCSEs
- Which Tier will my child be entered for?
- What topics are in the GCSE?
- What will the exams look like?
- How should students revise?
- Student expectations
- How will we support?
- How can you support at home?



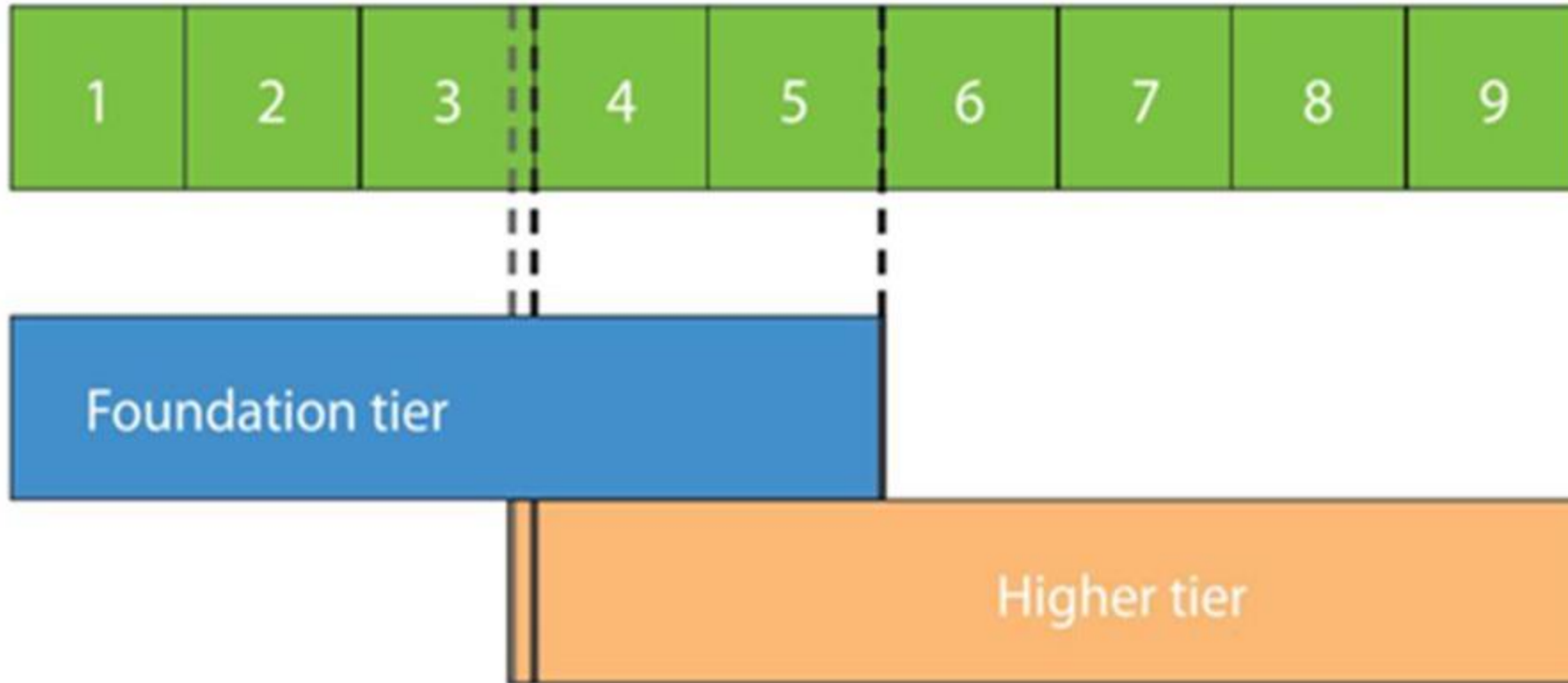
What has changed?

- More content
 - Greater level of difficulty*
 - Grading system
 - Tier of entry

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



Which Tier will my child be entered for?



Which Tier will my child be entered for?

Set	Tier
1	Higher
2	Higher
3	Higher (Some Foundation)
4	Foundation
5	Foundation
6	Foundation
6P	Foundation



How will tier of entry be decided?

- Performance in lessons
- Performance in homework assignments
- Performance in EOY10 Exam
- Performance in Y11 PPEs (Pre-Public Exams)
- College Course requirements
- Exam experience
- For some, this may be as late as March of Y11



What topics are in the GCSE?

- Algebra
- Number
- Geometry & Measure
- Ratio & Proportion
- Statistics
- Probability



What will the exams look like?



Foundation Tier question aimed at grade 2

8

Sam, Carl and Erik share 40 sweets.

Erik gets the largest share.

What is the **smallest** possible number of sweets that Erik could get?

[2 marks]

Answer _____



Foundation Tier question aimed at grade 3

- 11 300 passengers go on a coach trip.
 Each coach takes 50 passengers.
 Each passenger pays £25

The table shows the costs for the coach company.

	Cost for each coach
Pay for driver	£90
Fuel	70p per mile

Each coach travels 200 miles.

Work out the **total** profit the company makes from this trip.

[6 marks]



F/H Tier question aimed at grade 4/5

20

Work out $\sqrt{121} - (13 - 5 \times 2)^2$

[3 marks]

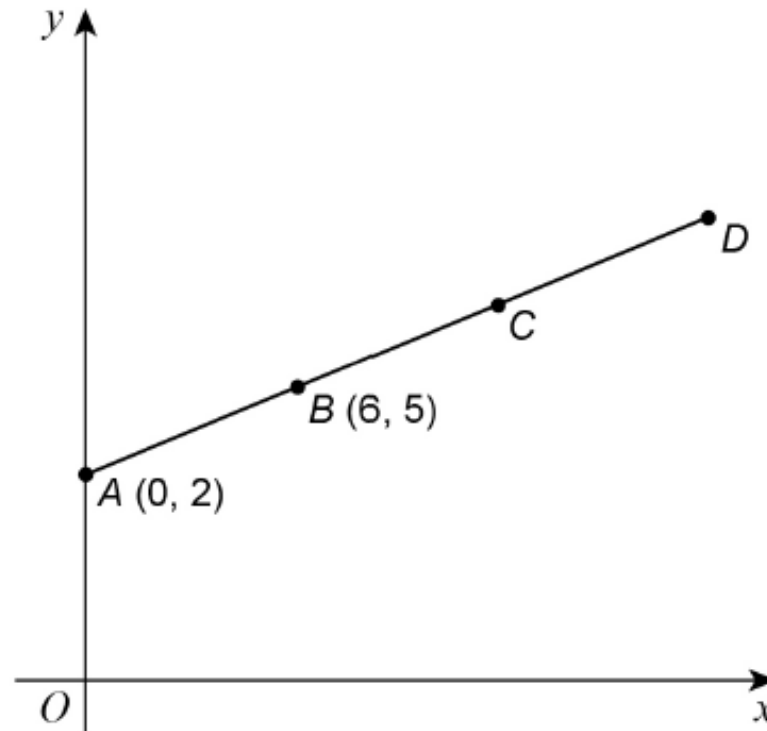
Answer _____



F/H Tier question aimed at grade 4/5

26

$A(0, 2)$ and $B(6, 5)$ are points on the straight line $ABCD$.



Not drawn
accurately

$$AB = BC = CD$$

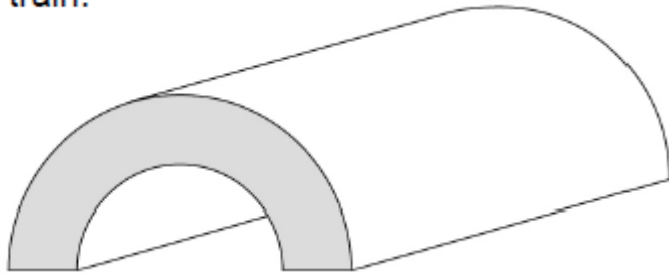
Work out the coordinates of D .

[3 marks]

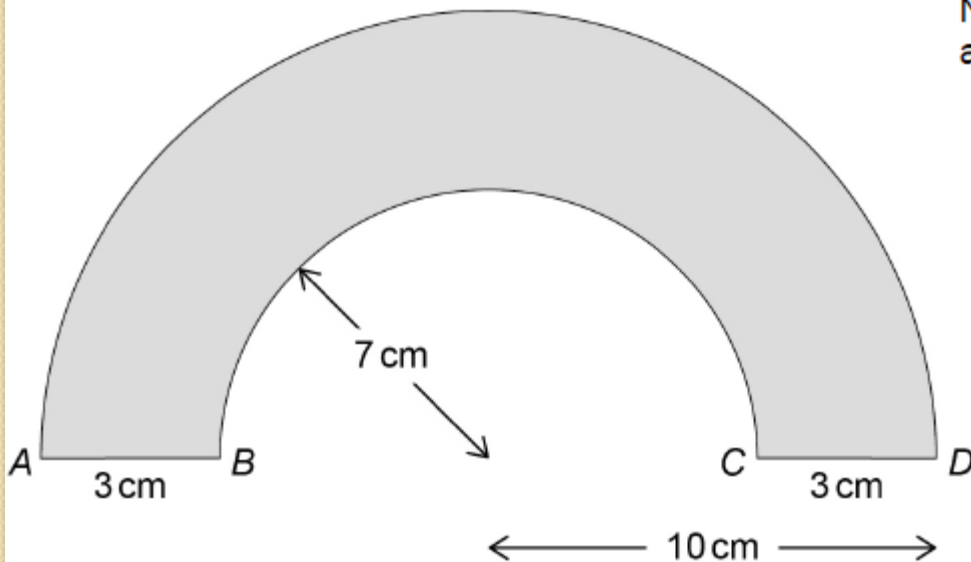


Higher Tier question aimed at grade 6

Here is a tunnel for a toy train.



The diagram below shows the cross section of the tunnel.



Not drawn accurately

AD is a semicircular arc of radius 10 cm
 BC is a semicircular arc of radius 7 cm
The length of the tunnel is 30 cm

Work out the total area of all six faces of the tunnel.

Give your answer in terms of π .



Higher Tier question aimed at grade 7

20

A linear sequence starts

$$a + 2b \quad a + 6b \quad a + 10b \quad \dots \quad \dots$$

The 2nd term has value 8

The 5th term has value 44

Work out the values of a and b .

[4 marks]



Higher Tier question aimed at grade 8

26

b is two thirds of c .

$$5a = 4c$$

Work out the ratio $a : b : c$

Give your answer in its simplest form where a , b and c are integers.

[3 marks]



Higher Tier question aimed at grade 9

28

Simplify $\sqrt{80} + \sqrt{2\frac{2}{9}}$

Give your answer in the form $\frac{a\sqrt{5}}{b}$ where a and b are integers.

[3 marks]



“Amateurs practise until they get it right;

Professionals practise until they can't get
it wrong!”



How should students revise?

We revise in lessons all the time...

- Starter booklets = Revision
- Spiralling curriculum
- In year 11
 - Examination technique practice
 - Mini exams
 - WTMs (Walking Talking Mocks)



What about at home?

Sparx Maths



Sparx Maths...

- School Policy = 1 hour per week
- Compulsory (Can take about an hour, includes a times tables quiz)
- There is an extra 'XP Boost' HW
- There is also a slightly harder 'Target' HW
- If Compulsory takes less than 1 hour, do extra!
- If you want to focus on a specific topic....



★
Compulsory

⚡
XP Boost

👑
Target

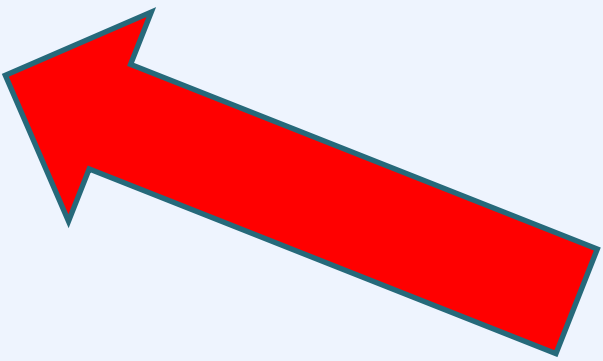
💡
Independent Learning

Hey Isla,

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

3/3

- ✓ Homework due Wednesday 4th October 3pm **Completed ✓**
- ✓ Homework due Wednesday 27th September 7am **Completed ✓**
- ✓ Introducing Sparx Maths **Completed ✓**



☆
Back to
homework

Independent Learning

Find topics My activity

Search for topics: Your curriculum: Default level:

Select a topic:

Number 	Algebra
Ratio and Proportion 	Geometry
Probability 	Statistics

Back to homework

Independent Learning

Find topics

My activity

Search for topics:

equations linear

Your curriculum:

Key Stage 3

Default level:

Level 4

10 topics found

[Clear search](#)

- Algebra > Solving equations
Solving **linear equations** involving brackets - M902
- Algebra > Graphs and coordinates
Finding **equations** of straight **line** graphs - M544
- Algebra > Graphs and coordinates
Interpreting **equations** of straight **line** graphs - M888
- Algebra > Real-life graphs
Finding **equations** of real-life straight **line** graphs - M205
- Algebra > Solving equations
Solving simultaneous **equations** graphically - M658
- Algebra > Solving equations
Constructing and solving **equations** - M957
- Algebra > Graphs and coordinates
Plotting straight **line** graphs - M932
- Algebra > Graphs and coordinates
Plotting horizontal and vertical **lines** - M797




[Independent learning](#) > [Algebra](#) > Solving equations

Solving linear equations involving brackets - M902

Level 4 ✓ ★ ★ ⓘ

▼ Show building blocks

Solving linear equations involving brackets

 Introduce	Question 1 Answer	Question 2 Answer	Question 3 Answer	Question 4 Answer	Question 5 Answer
 Strengthen	Question 1 Answer	Question 2 Answer	Question 3 Answer	Question 4 Answer	
 Deepen	Question 1 Answer	Question 2 Answer	Question 3 Answer	Question 4 Answer	

- 1A
- 1B
- 1C
- 1D
- 1E
- Summary

Bookwork code: 1A

Calculator not allowed

Solve $4(c + 2) = 28$

Watch video

Answer

Support video

Solve $3(v+4) = 24$

Always do the same thing to both sides of an equation

Get v on its own

Expand the brackets

$$3(v+4) = 24$$

$$3v + 12 = 24$$

Subtract 12 from both sides

- 12

$$3v + 12 - 12 = 24 - 12$$

- 12

Divide both sides by 3

÷ 3

$$3v = 12$$

$$3v \div 3 = 12 \div 3$$

÷ 3

$$v = 4$$

Check: substitute the answer back into the equation

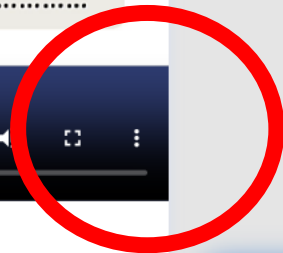
$$3(v+4) = 3(4+4)$$

$$= 3 \times 8$$

$$= 24 \checkmark$$

answer: ... $v = 4$

0:00 / 1:30



Close video X

Student expectations

- Attendance & Punctuality
- Fully equipped
- Proactive – Not passive!
- Independent
- Resilient
- Hard-working
- Make the most of lessons



How will we support?

- Lessons – The most important element.
- Access to Sparx
- Year 11 – Extra revision sessions
- Year 11 – Registration Maths activities



How can you support at home?

- If possible, please provide a quiet and distraction free working environment at home for your child to work in.
- Take an interest in their Maths work, even if it was not your strongest subject when you were at school.
- Encourage them to do a minimum of 1 hour of maths per week (Sparx)
- Make sure they are well equipped.
- Make sure they get enough sleep and eat healthily.
- Ask your child times table questions including divisions: eg. $56 \div 8$
- Tell your child how you use Maths in your everyday life.



“Amateurs practise until they get it right;

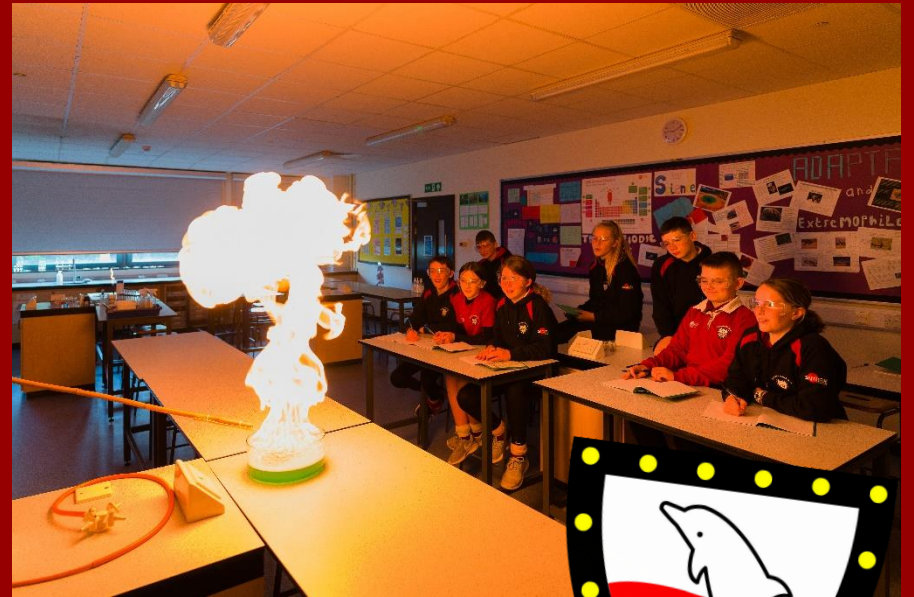
Professionals practise until they can't get
it wrong!”



Welcome

Science at RLS

be the best you can be...



Exam Board: **AQA**

Two Routes: **GCSE Combined**

Science TRILOGY

OR

GCSE Triple Science

Exam Board: AQA

Course: GCSE

Combined Science
TRILOGY

10 lessons per
fortnight with 2
different teachers

Year 10 topics

Biology Paper 1

- B1 = Cell structure and transport
- B2 = Cell division
- B3 = Organisation and the digestive system
- B4 = Organising animals and plants
- B5 = Communicable diseases**
- B6 = Preventing and treating disease**
- B7 = Non-communicable diseases**
- B8 = Photosynthesis
- B9 = Respiration

Chemistry Paper 1

- C1 = Atomic structure**
- C2 = The periodic table**
- C3 = Structure and bonding
- C4 = Chemical calculations
- C5 = Chemical changes
- C6 = Electrolysis
- C7 = Energy Changes

Physics Paper 1

- P1 = Conservation and dissipation of energy
- P2 = Energy transfer by heating
- P3 = Energy resources**
- P4 = Electric circuits
- P5 = Electricity in the home
- P6 = Molecules and matter
- P7 = Radioactivity

Year 11 topics

Biology Paper 2

- B10 = The human nervous system
- B11 = Hormonal co-ordination
- B12 = Reproduction
- B13 = Variation and evolution
- B14 = Genetics and evolution
- B15 = Adaptations, interdependence and competition
- B16 = Organising an ecosystem
- B17 = Biodiversity and ecosystems

Chemistry Paper 2

- C8 = Rates and equilibrium (start in Y10)**
- C9 = Crude oil and fuels
- C10 = Chemical analysis
- C11 = The Earth's atmosphere
- C12 = The Earth's resources**

Physics Paper 2

- P8 = Forces in balance (start in Y10)**
- P9 = Motion
- P10 = Forces and motion
- P11 = Wave properties**
- P12 = Electromagnetic waves**
- P13 = Electromagnetism

AQA TRILOGY: GCSE Combined Science Exams

Biology
Paper 1
70 marks
1 hour 15 mins

Chemistry
Paper 1
70 marks
1 hour 15 mins

Physics
Paper 1
70 marks
1 hour 15 mins

Covered in
Year 10

Biology
Paper 2
70 marks
1 hour 15 mins

Chemistry
Paper 2
70 marks
1 hour 15 mins

Physics
Paper 2
70 marks
1 hour 15 mins

Covered in
Year 11

GCSE Combined Science

Double Award Grading System

Students will sit all 6 exams at the end of Year 11.

The scores from all of the 6 papers are added up to give a mark out of 420.

This score generates the science double award grade.



Exam Board: AQA



Course: **GCSE Triple
Biology, Chemistry and
Physics.**

15 lessons per
fortnight with 3
specialist
teachers

**AQA
GCSE
Triple
Science**

Biology
Paper 1
100 marks
1 hour 45 mins

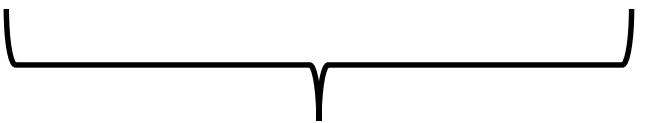
Chemistry
Paper 1
100 marks
1 hour 45 mins

Physics
Paper 1
100 marks
1 hour 45 mins

Biology
Paper 2
100 marks
1 hour 45 mins

Chemistry
Paper 2
100 marks
1 hour 45 mins

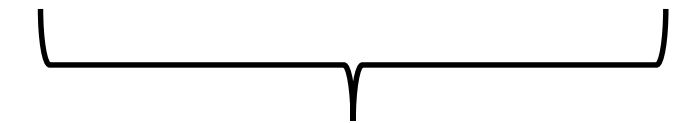
Physics
Paper 2
100 marks
1 hour 45 mins



**One GCSE Grade
9-1**



**One GCSE Grade
9-1**



**One GCSE Grade
9-1**

Biology Paper 1

- B1 = Cell structure and transport
- B2 = Cell division
- B3 = Organisation and the digestive system
- B4 = Organising animals and plants
- B5 = Communicable diseases**
- B6 = Preventing and treating disease**
- B7 = Non-communicable diseases**
- B8 = Photosynthesis
- B9 = Respiration

Biology Paper 2

- B10 = The human nervous system
- B11 = Hormonal co-ordination
- B12 Homeostasis in action***
- B13 = Reproduction
- B14 = Variation and evolution
- B15 = Genetics and evolution
- B16 = Adaptations, interdependence and competition
- B17 = Organising an ecosystem
- B18 = Biodiversity and ecosystems

AQA GCSE: Triple Chemistry

Chemistry Paper 1

- C1 = Atomic structure
- C2 = The periodic table
- C3 = Structure and bonding
- C4 = Chemical calculations
- C5 = Chemical changes
- C6 = Electrolysis
- C7 = Energy Changes

Chemistry Paper 2

- C8 = Rates and equilibrium
- C9 = Crude oil and fuels
- C10 = Organic reactions**
- C11 Polymers**
- C12 = Chemical analysis
- C13 = The Earth's atmosphere
- C14 = The Earth's resources
- C15 = Using our resources**

AQA GCSE: Triple Physics



Physics Paper 1

P1 = Conservation and dissipation of energy

P2 = Energy transfer by heating

P3 = Energy resources

P4 = Electric circuits

P5 = Electricity in the home

P6 = Molecules and matter

P7 = Radioactivity

Physics Paper 2

P8 = Forces in balance P9 = Motion

P10 = Forces and motion

P11 = Force and pressure

P12 = Wave properties

P13 = Electromagnetic waves

P14 = Light

P15 = Electromagnetism

P16 = Space

GCSE Triple Science Grading

Students will be awarded 3 separate science GCSEs – Biology, Chemistry and Physics.

The marks from both exam papers (e.g. biology) are added up to give a mark out of 200.

This score out of 200 generates the final grade.

GCSE Grading	
New Grading Structure	Old Grading Structure
9	A*
8	
7	A
6	B
5	
Standard Pass → 4	C
3	D
2	E
1	F
	G
U	U



Username/Email

4bany

School login

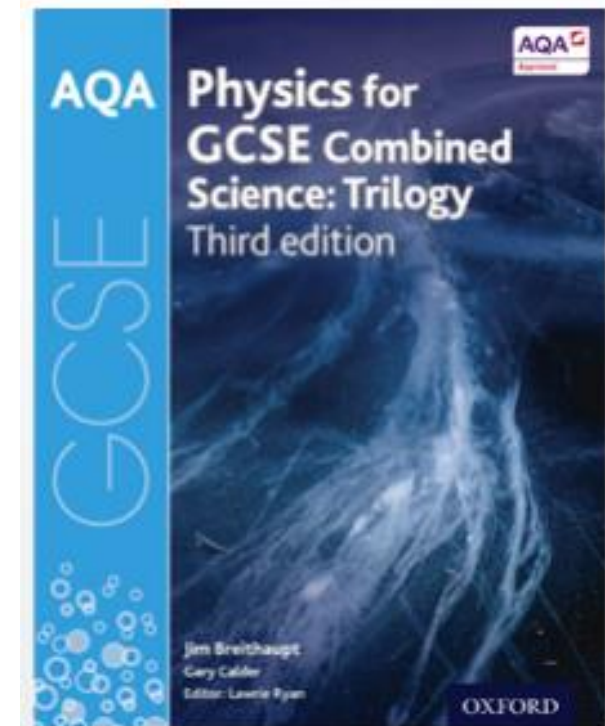
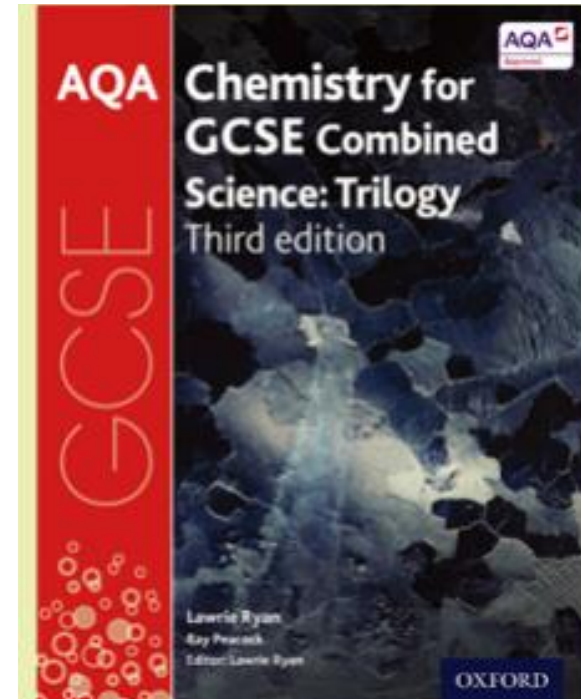
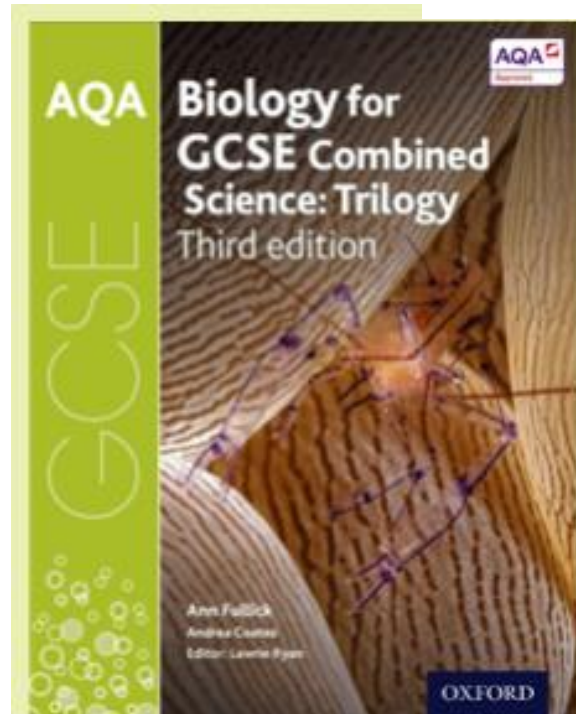
Password

Your teacher can re-set this if you have forgotten

Institution Code

sti6

This is the same for everyone



How Can I Follow My Child's
Progress?



You will find this record card in the front of each of their Science books

Science Topics:

Target:

Year 10 Biology and Chemistry Combined Science (7:3)



Topic 1		Topic 2		Topic 3		Topic 4		Topic 5		Topic 6	
Chemistry: Structure and Bonding (Chapter 3)		Biology : Cell Structure & Transport, Cell division (Chapter 1 & 2)		Chemistry: Chemical Calculations & Chemical Changes (Chapter 4 & 5)		Biology: Organisation & The Digestive System, Organising Animals & Plants (Chapter 3 & 4)		Chemistry: Electrolysis & Energy Changes (Chapter 6 & 7)		Biology: The Human Nervous System & Hormonal Control (Chapter 10 & 11)	
<ol style="list-style-type: none"> States of Matter Atoms into ions Ionic bonding Giant ionic structures Covalent bonding Structure of simple molecules Giant Covalent structures Fullerenes and graphene Bonding in metals Giant metallic structures 		<ol style="list-style-type: none"> The World of the Microscope Animal and Plant Cells Prokaryotic and Eukaryotic Cells Specialisation in Animal Cells Specialisation in Plant Cells Diffusion Osmosis Osmosis in Plants Active Transport Exchanging Materials Cell Division Growth and Differentiation Stem Cells Stem Cell Dilemmas 		<ol style="list-style-type: none"> Relative masses and moles Equations and calculations (HT) From masses to balanced equations (HT) Expressing concentrations The reactivity series Displacement reactions Extracting metals Salts from metals Salts from insoluble bases Making more slats Neutralisation & the pH scale Strong & weak acids (HT) 		<ol style="list-style-type: none"> Tissues and Organs The Human Digestive System The Chemistry of food Catalysts and enzymes Factors Affecting Enzyme Action How the Digestive System Works Making Digestion Efficient The Blood The Blood Vessels The Heart Helping the Heart Breathing and Gas Exchange Tissues & organs in plants Transport Systems in Plants Evaporation and Transpiration Factors affecting transpiration 		<ol style="list-style-type: none"> Introduction to Electrolysis Changes at the electrodes Extraction of Aluminium Electrolysis of Aqueous Solutions Exothermic & Endothermic reactions Using energy transfers from reactions Reaction profiles Bond Energy calculations (HT) 		<ol style="list-style-type: none"> Principles of Homeostasis The Structure and Function of the nervous system Reflex Actions Principles of hormonal control The control of blood glucose levels Treating diabetes The role of negative feedback (HT) Human Reproduction Hormones and the menstrual cycle (HT) The artificial control of fertility Infertility treatments (HT) 	
Test Score		Test Score		Test Score		Test Score		Test Score		Test Score	

Your child will complete their test scores at the end of the topic



Ways to Support Your Child's Science



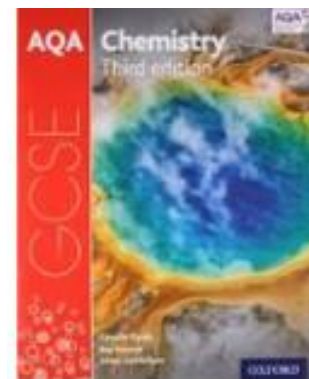
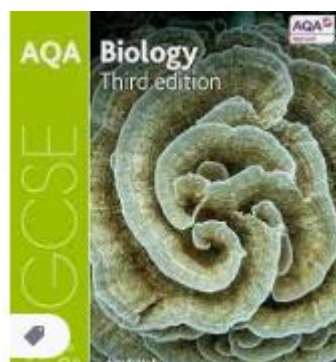
Revision guides can be purchased on ParentPay

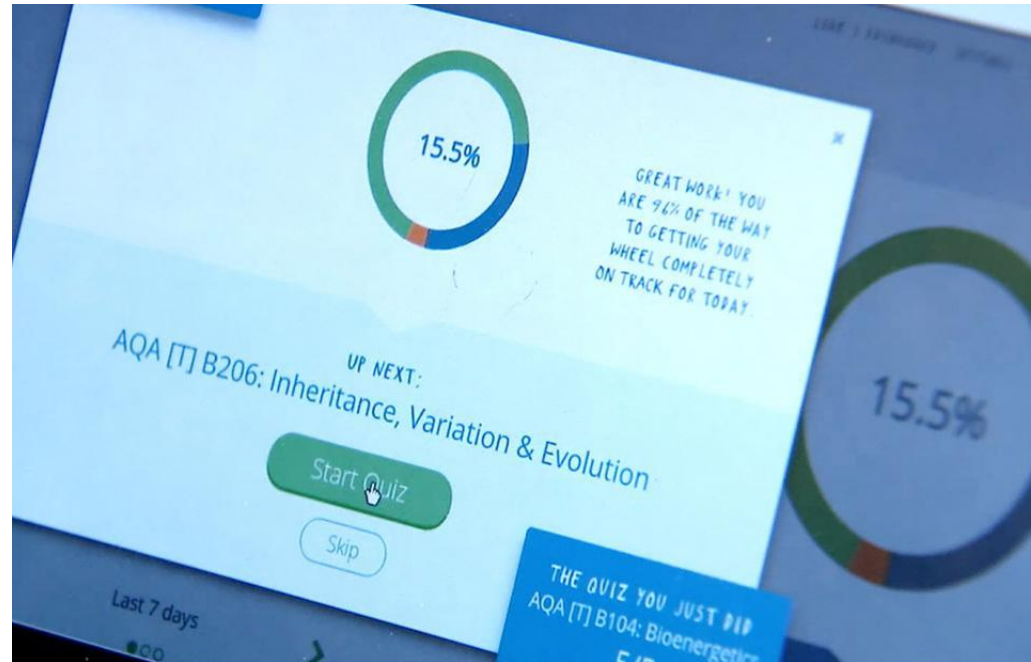
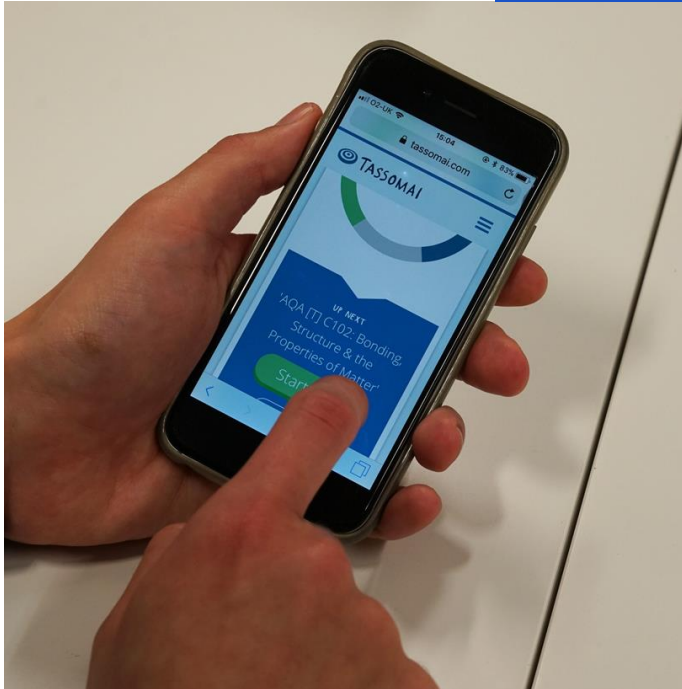


Hit their daily goal!



Log in with your child's school login for username and password. Institution code: ST16





<https://www.tassomai.com/>

Thank you