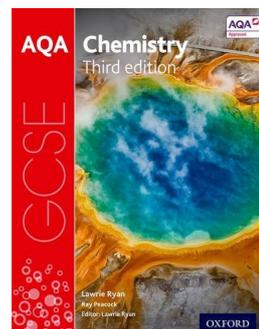




# Chemistry Overview

**Term:** Autumn  
**Year:** 10  
**Teacher:** Mr Alamgir Islam  
**Textbook title:** AQA GCSE Chemistry Oxford



**What will we be covering this term?**

## 1<sup>st</sup> Half Term:

**Chemical calculations:** In this chapter, students will build upon their understanding of the structure of atoms and sub-atomic particles to understand relative atomic mass and relative formula mass. Students will be able to use relative atomic masses to calculate relative formula masses of compounds. This was then related to the mole and Avogadro's constant, and the relevant calculations introduced. Students should be able to use the equation  $\text{number of moles} = \frac{\text{mass (g)}}{A_r}$  and use moles to balance symbol equations and calculate reacting masses.

## 2<sup>nd</sup> Half Term:

**Chemical changes:** In this chapter, students will revise and develop their understanding of the reactivity series from KS3. They will apply their understanding of the reactivity series to displacement reactions and the extraction of metals, as well as introducing higher-tier students to the concepts of oxidation and reduction as the loss and gain of electrons respectively.

**Electrolysis:** In this chapter, students are introduced to electrolysis. They will build upon their knowledge from *Chapter C3* to explain why ionic compounds can undergo electrolysis when molten or in solution. They should also be able to explain the movement of particles during electrolysis, and the reactions that occur at the electrodes.



## Teacher's Marking Key:

Mark code	Means .....
SP	Spelling error
//	New paragraph needed
Work underlined	Indicate a word or phrase does not make sense
?	Not clear. Rewrite this section again to improve the expression.
FS	Write in full sentences
EX	Develop your explanation further using scientific keywords.
D	You need to add more detail.
EBI	Even better if
www	What went well
GR	Grammar error
P	Punctuation error

## How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

In more detail;

**1<sup>st</sup> Assessment:** Chemical calculations

**2<sup>nd</sup> Assessment:** Chemical changes & Electrolysis

At the end of the term there will summative exam that will test their knowledge for what they've covered during the course of the entire term.

## How can I help my child in this subject?

- Ensure homework is complete; you can track students' homework assignments at <https://www.showmyhomework.co.uk>
- Encouragement, praise, ensuring that they do their homework; and checking their student planner.
- Encouraging them to read around the subject.
- Their notes must be in order; discipline is essential.



## **Resources**

### ***Useful Websites***

For independent study the following websites are recommended:

- Decimal places and significant figures: <https://www.my-gcsescience.com/decimal-places-significant-figures/>
- Describing, explaining and comparing graphs <https://www.my-gcsescience.com/describing-explaining-comparing-graphs/>
- AQA specification: <https://filestore.aqa.org.uk/resources/chemistry/specifications/AQA-8462-SP-2016.PDF>
- BBC Bitesize: [http://www.bbc.co.uk/schools/gcsebitesize/science/add\\_aqa/](http://www.bbc.co.uk/schools/gcsebitesize/science/add_aqa/)
- Revision GCSE chemistry: <http://www.gcsescience.com/pe.htm>
- Assessment resources: <https://www.aqa.org.uk/subjects/science/gcse/chemistry-8462/assessment-resources>
- GCSE exam questions organised by Topics & difficulty: <https://www.savemyexams.co.uk/gcse-chemistry-aqa/>

### **Communications**

**Who do I contact if I have concerns about my child's progress in this subject?**

Please feel free to contact us at the school from 9.00-15:00 if you have any questions or concerns or contact me by email

[alamgir.islam@alkhairschool.org.uk](mailto:alamgir.islam@alkhairschool.org.uk).



# Chemistry Overview

**Term:** Spring  
**Year:** 10  
**Teacher:** Mr Alamgir Islam  
**Textbook title:** AQA GCSE Chemistry Oxford



## What will we be covering this term?

### 1<sup>st</sup> Half Term:

**Rates and equilibrium:** In this chapter, students will learn the factors that affect the rate of a reaction, including temperature, surface area, concentration, and pressure. Students should be able to explain the effect of each factor on the rate of reaction using collision theory - understanding that each factor increases the *frequency* of effective collisions, **not** just the number of collisions. They should also be able to explain the effect of catalysts on the rate of a reaction in terms of providing an alternative reaction pathway with a lower activation energy.

### 2<sup>nd</sup> Half Term:

**Rates and equilibrium (cont.):** Students will learn about reversible reactions and dynamic equilibrium. Students should apply their knowledge on endothermic and exothermic reactions to equilibrium reactions to be able to predict the effect of temperature changes on the reversible reactions and the position of the equilibrium. Higher-tier students should also be able to use Le Châtelier's principle to explain the effect of temperature and pressure on the position of equilibrium.

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## How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

In more detail;

**1<sup>st</sup> Assessment:** Rate of reaction I

**2<sup>nd</sup> Assessment:** Rate of reaction II

At the end of the term there will be a summative exam that will test their knowledge for what they've covered during the course of the entire term.

## How can I help my child in this subject?

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- Encouragement, praise, ensuring that they do their homework; and checking their student planner.
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## Resources

### *Useful Websites*

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- AQA specification: <https://filestore.aqa.org.uk/resources/chemistry/specifications/AQA-8462-SP-2016.PDF>
- BBC Bitesize: [http://www.bbc.co.uk/schools/gcsebitesize/science/add\\_aqa/](http://www.bbc.co.uk/schools/gcsebitesize/science/add_aqa/)
- Revision GCSE chemistry: <http://www.gcse-science.com/pe.htm>
- Assessment resources: <https://www.aqa.org.uk/subjects/science/gcse/chemistry-8462/assessment-resources>
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[alamgir.islam@alkhairschool.org.uk](mailto:alamgir.islam@alkhairschool.org.uk).



# Chemistry Overview

**Term:** Summer  
**Year:** 10  
**Teacher:** Mr Alamgir Islam  
**Textbook title:** AQA GCSE Chemistry Oxford



**What will we be covering this term?**

## 1<sup>st</sup> Half Term:

**Chemical analysis:** In this chapter, students will learn about various techniques for analyzing substances. All students should understand the difference between a pure substance, a mixture, and a formulation, and what is meant by purity. Students should also have built upon their understanding of chromatography experiments from *Chapter C1* and be able to analyse a chromatogram, both qualitatively and quantitatively using  $R_f$  values. Students should also be able to describe the different experimental tests for gases, including both the procedure and positive result.

## 2<sup>nd</sup> Half Term:

**Crude oil and fuels:** In this chapter, students will learn about hydrocarbons and be introduced to the alkanes. They should be able to identify alkanes from their formulae, and be able to name and draw the displayed formula of the first four alkanes. Students will also learn about some of the reactions of hydrocarbons, including combustion (both complete and incomplete) and cracking.

Throughout this chapter, students will have many opportunities to develop their working scientifically skills, including evaluating models and interpreting and evaluating evidence for scientific theories.



## Teacher's Marking Key:

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## How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

In more detail;

**1<sup>st</sup> Assessment:** Chemical analysis

**2<sup>nd</sup> Assessment:** Crude oil and fuels

At the end of the term there will summative exam that will test their knowledge for what they've covered during the course of the entire term.

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- BBC Bitesize: [http://www.bbc.co.uk/schools/gcsebitesize/science/add\\_aqa/](http://www.bbc.co.uk/schools/gcsebitesize/science/add_aqa/)
- Revision GCSE chemistry: <http://www.gcse-science.com/pe.htm>
- Assessment resources: <https://www.aqa.org.uk/subjects/science/gcse/chemistry-8462/assessment-resources>
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