

## KS3 Chemistry Video Course

### Overview

My key aims in the KS3 Chemistry course are to build engagement and enthusiasm for Chemistry, as well as academically rigorous foundations to help with the transition to IGCSE. I regularly include live demonstrations in my lessons to help give that sense of wonder that hooks students into a love of Science. I also include short video clips to illustrate more fiery practicals that I can't do from my home! Much of the recommended follow up work involves kitchen Chemistry experiments that can be easily carried out at home.

Many of my learners join me at KS3 with the aim of continuing on to take IGCSE Chemistry. While it is not essential to study KS3 Chemistry in order to study IGCSE, it helps to put good foundations in place that will make the transition to IGCSE learning less challenging. The KS3 course that I teach is very much a pre-IGCSE course, which does aim to stretch and challenge and push beyond the confines of a traditional KS3 course, where appropriate. Students should also be studying KS3 Maths alongside Chemistry, as there is a significant mathematical component to the subject (20% of the marks at IGCSE), so it is important that we include practice of appropriate mathematical skills within the KS3 course, in order to build the necessary skills.

In terms of age, I have Year 6 equivalent students taking KS3 Chemistry through to those in Year 9. For younger students it is worth bearing in mind where this course will lead to in terms of progression to IGCSE learning, as I would not generally recommend starting IGCSE Chemistry before Year 9 equivalent level. However, I am now offering an extended 2-year IGCSE course aiming at the November sitting (E.g. starting September 2022 aiming at November 2024) to cater for my slightly younger students, who will benefit from extra maturity and more chance to develop their Maths skills. So there is some flexibility in this for more advanced students who are ready for the extra challenge that IGCSE Chemistry brings.

KS3 Chemistry courses in schools are often heavily practically based. In designing this course, I have thought carefully about which aspects of typical KS3 courses are most important to teach in terms of smooth progression to IGCSE Chemistry, but also which topics lend themselves to online teaching, without being able to have a practical focus to classes. Without the limitations of a school curriculum or working to an exam, there has been the freedom to create an innovative course that also embeds the key skills needed for later success at IGCSE. It is a course where the development of skills is as important as the coverage of content. To support this, there are no topic tests, so we really can focus on the joy of learning (before things get rather more serious at IGCSE).

I have also sought to ensure that we cover relevant environmental issues within the course. The IGCSE Chemistry course often does not go into as much detail on these, in comparison to

other GCSE specifications, so the KS3 course provides an opportunity to explore this in more detail. I believe that understanding some of the big issues that students will need to contribute to over the coming years, should be a key feature of any Science education. Aspects covered include climate change, carbon footprint and life cycle assessment, pollution and acid rain, waste water treatment and water purification.

### **What is included in the course**

- 34 lessons teaching the course content through interactive videos, which are designed to take around an hour when paused for activities.
- Workbook style notes for each lesson with detailed topic notes and activities to complete during the video lesson.
- Optional follow up work for each lesson, which is often practically based, or otherwise aimed at extending learning through links to other resources. Where there are specific answers, mark schemes are provided.
- Regular self-marking quizzes.

The course starts in September and runs through to the end of June, with 1 lesson per week released in term time. These lessons can be done at any time, so give flexibility in learning. If you need to retain access beyond the end of June, in order to complete the course, then this is available.

## Why choose a CanDoChem course?

My vision at CanDoChem is to enable all students to access a top-quality Chemistry education, that will engage and enthuse them and help them to realise their potential. Chemistry is a conceptually challenging subject, where specialist teaching makes all the difference in terms of both helping students to flourish and really understand the subject. I am equally passionate about both teaching and Chemistry, and the progress of every student genuinely matters to me. My courses are taught and resourced in such a way to ensure that students with SEND are set up for success and the excellent teaching practices benefit all learners.

I am a former Head of Chemistry with fifteen years of teaching experience. I spent the first twelve years teaching in UK schools and for the last three years I have been an independent online Chemistry educator, working with many home educated students. I teach all of the courses offered by CanDoChem and have written / produced the accompanying resources. I also teach IGCSE and A Level Chemistry, so right from KS3, I ensure that good foundations are put in place to allow smooth transitions to learning at a higher level.

I have a PhD in Chemistry from the University of Cambridge, so am (mostly) able to answer the challenging questions that my students like to throw at me! I also have a PGCE and a Masters in Education, from Cambridge. My educational expertise means that I am a very reflective teacher, who excels in simplifying concepts and building understanding in a step wise manner, which helps all students.

### Course costs

The total cost of the course is £180, which you can either pay up front or otherwise, I split it into three equal termly payments of £60 for ease. This works out as approximately £5.30 per lesson. Regardless of how you pay, the lessons are released according to the weekly schedule. While the course starts in September, you can of course start later and have access to the earlier lessons to cover at a time that suits you. However, I do strongly recommend working through it in order, as the course does build on earlier knowledge / skills in later lessons.

### Trying out a lesson

If you would like to try a lesson to check that the course will suit your needs, then you can access the first lesson on my course site here:

<https://courses.candochem.com/courses/ks3-chemistry>

### Signing up for the course

You can either sign up via my course site if you want to pay up front, or you can complete my electronic registration form for termly payments: <https://forms.gle/HVdJDkFSY3jnPRp8A>

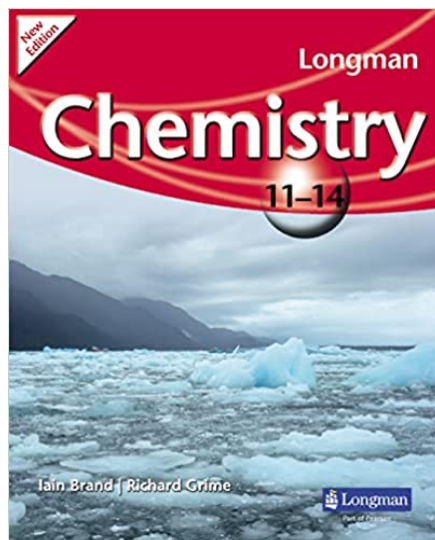


## Course Schedule

Half Term	Lesson Number	Date of Class release	Topic
1	1	5/9/22	Hazard and Risk
	2	12/9/22	Apparatus and Units
	3	19/9/22	Measuring and Recording Data
	4	26/9/22	Tables and Graphs
	5	3/10/22	Investigations I
	6	10/10/22	Investigations II
2	7	31/10/22	States of Matter I
	8	7/11/22	States of Matter II
	9	14/11/22	Melting and Boiling points
	10	21/11/22	Chemical and Physical Changes
	11	28/11/22	Word Equations
	12	5/12/22	The Periodic Table
	13	12/12/22	Element Symbols and Compounds
3	14	9/1/23	Naming and Formulae
	15	16/1/23	Dissolving
	16	23/1/23	Solubility Curves
	17	30/1/23	Separating Mixtures I
	18	6/2/23	Separating Mixtures II
	19	13/2/23	Acids and Alkalis
4	20	27/2/23	Acids, Bases and Neutralisation
	21	6/3/23	Reactions of Acids and Bases
	22	13/3/23	Acid Reactions
	23	20/3/23	Metals and Alloys I
	24	27/3/23	Metals and Alloys II
5	25	17/4/23	Cooking Chemistry
	26	24/4/23	Food Additives and Packaging
	27	1/5/23	Colour Chemistry
	28	8/5/23	Water Chemistry
	29	15/5/23	Waste Water Treatment
	30	22/5/23	Earth Science
6	31	5/6/23	Rocks
	32	12/6/23	Atmospheric Chemistry
	33	19/6/23	Carbon Chemistry
	34	26/6/23	Structure of the Atom

## Text Book Recommendation

It is absolutely not essential to buy a text book for KS3 Chemistry. Everything that you need is included within the course notes and I do not follow the teaching order of any particular book. I do however, give text book pages where relevant, as a reference within the course for students who might like to read around the topic. If you do want a copy of this text book it is: *Longman Chemistry 11-14 – Ian Brand and Richard Grime*



## Terms and Conditions

- The video course includes 1 week cooling off period after the start of the course, during which time I will provide a full refund if you do not wish to continue with the course. After that time, courses are non-refundable.
- Students paying termly will lose access to the course if they do not maintain the scheduled course payments.
- While the course runs until the end of June, I am happy to extend access if needed for individual students to allow them to complete the course.
- If choosing to pay for the course by instalments, payment will be due termly in advance. This is taken via Stripe or bank transfer, with details on the invoice.
- Access to resources including notes and videos should not be shared with anyone outside your household.