



**Specification:** OCR Chemistry

<http://www.ocr.org.uk/Images/171720-specification-accredited-a-level-gce-chemistry-a-h432.pdf>

*Of the books/ activities listed below, you need to choose **at least three**. Immediately after each of these (before you forget), you should complete the Sixth Form Induction Tasks Worksheet.*

**MANDATORY Task 1** - It is important to complete the following 'Chemical Calculations' in order to demonstrate competency in the skills covered. These are also necessary to close the gap between double and triple science. <https://www.showbie.com/> - Class code **CPPBV**.

### Chemical calculations

Relative formula mass

<https://www.youtube.com/watch?v=q49NwirjaFw>

<https://www.youtube.com/watch?v=-fNVmDwJk>

<https://www.youtube.com/watch?v=kMak1TQ3YgU>

Equations and calculations

<https://www.youtube.com/watch?v=TV6n5MFH6IU>

<https://www.youtube.com/watch?v=5zOpoeN0dV0&t=21s>

Masses to balanced equations

<https://www.youtube.com/watch?v=4wTSLBBBMo0>

<https://www.youtube.com/watch?v=MuzOmFhiE8o>

Yield of a chemical reaction

<https://www.youtube.com/watch?v=9EV0Oq8g708>

<https://www.youtube.com/watch?v=A3ndfwX5lyl>

Atom economy

<https://www.youtube.com/watch?v=h1-Vj6eh-mM>

Expressing concentration and titrations

<https://www.youtube.com/watch?v=3G3KQIyoZDI>

<https://www.youtube.com/watch?v=xsm3KjKPx8>

[https://www.youtube.com/watch?v=Z93\\_atEmxNI](https://www.youtube.com/watch?v=Z93_atEmxNI)

<https://www.youtube.com/watch?v=vn3Rx3g1VPk>



<https://www.youtube.com/watch?v=x8DLLCNMKAs> (1) <https://www.youtube.com/watch?v=ycC4oKteRJu> (2)

Volume of gases

<https://www.youtube.com/watch?v=tYE-1nywIFs>

<https://www.youtube.com/watch?v=OzutTlOsYd0>

[https://www.youtube.com/watch?v=tYE-1nywIFs&start\\_radio=1&list=RDtYE-1nywIFs](https://www.youtube.com/watch?v=tYE-1nywIFs&start_radio=1&list=RDtYE-1nywIFs)

### Task 2

Click on the following link and register with The Open Science Laboratory:

<https://learn5.open.ac.uk/course/view.php?id=2>

From the website, choose **one** of the activities below to complete.

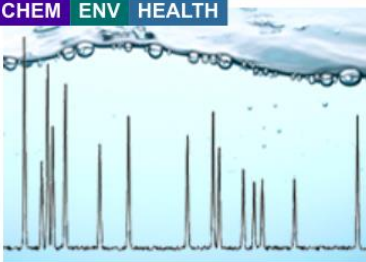
**BIO CHEM ENV**



**Measuring levels of nitrates in spring water (SXHL288)**  
Measuring levels of nitrates in water samples.

🕒 2.5 hours


**CHEM ENV HEALTH**



**Pesticide analysis with GC-MS**  
Finding environmental pesticides by gas chromatography and mass spectrometry.

🕒 2.5 hours

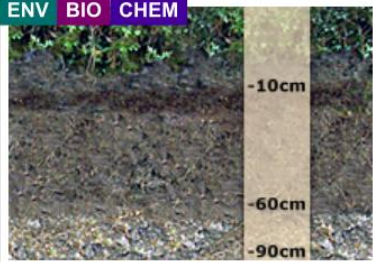
**BIO CHEM**



**Quantitative PCR analysis**  
Real time PCR, human CYP2D6 gene variants, gene copy number, controls, population analysis.

🕒 1 hour

**ENV BIO CHEM**



**Sorting out soils**  
Examine the physical and chemical characteristics of soil.

🕒 2.5 hours


**BIO CHEM ENV**



**Measuring levels of nitrates in spring water (SXHL288)**  
Measuring levels of nitrates in water samples.

🕒 2.5 hours

**CHEM PHYS**



**Elementary flame test**  
A simple demonstration of the characteristic colours produced by metallic salts in flames.

🕒 1 hour



### Task 3

Explore <http://www.rsc.org/learn-chemistry/> for excellent learning resources at your fingertips. Choose your favourite one and enjoy!

#### Magazines (free access unless stated below)

- **Education in Chemistry** <https://edu.rsc.org/eic>  
Topical and interesting magazine making it an essential read for keeping up to date with advances in chemistry and its application in industry.
- **The Mole** <https://eic.rsc.org/section/the-mole>  
A legacy e-magazine that is still relevant.
- **Chemistry Review** <https://www.york.ac.uk/chemistry/schools/chemrev/web/>
- **Chemistry Explored** <http://www.bristol.ac.uk/chemistry/courses/undergraduate/chemistry-explored.html>
- **New Scientist** <https://www.newscientist.com/subscribe/studentdiscount/>  
12 issues are currently available with student subscription for £24.75 (that's 57% discount on the usual price for APP + WEB or APP and Print)
- **Chemistry World** <https://www.chemistryworld.com/>  
Get the latest research, news and views delivered to your inbox. Access informative podcasts, and why not join their book club?
- **Catalyst** <https://www.stem.org.uk/resources/collection/3137/catalyst>  
A science magazine for students aged 14-19, paid subscription but archived copies are free.
- **Young Scientists Journal** <https://ysjournal.com/>  
A unique online science journal, written by young scientists for young scientists (aged 12-20).

#### Activities

- **Chemistry Events:** <http://www.rsc.org/events/?gclid=CMf99vW1iNQCFVAQ0wodtnYLTg>  
Local, national and international chemistry activities are accessible from the events page.
- **BBC Science** <https://www.bbc.co.uk/science>
- <http://www.compoundchem.com/> - great summaries of recent developments in chemistry

#### Free MOOC – Massive Open Online Courses

Short online courses that give you a feel for working to deadlines or you can opt for completely self-paced courses where you can familiarise yourself with the chemistry terminologies.

- <https://www.coursera.org/courses?languages=en&query=chemistry>
- <https://www.edx.org/course/?subject=Chemistry&language=English>
- <https://learn.saylor.org/course/view.php?id=4>
- <http://www.open.edu/openlearn/science-maths-technology/science/chemistry>

The open University has a lot of free courses. Click on the link above to see the chemistry course titles available or this [link](#) for **free** chemistry related courses!