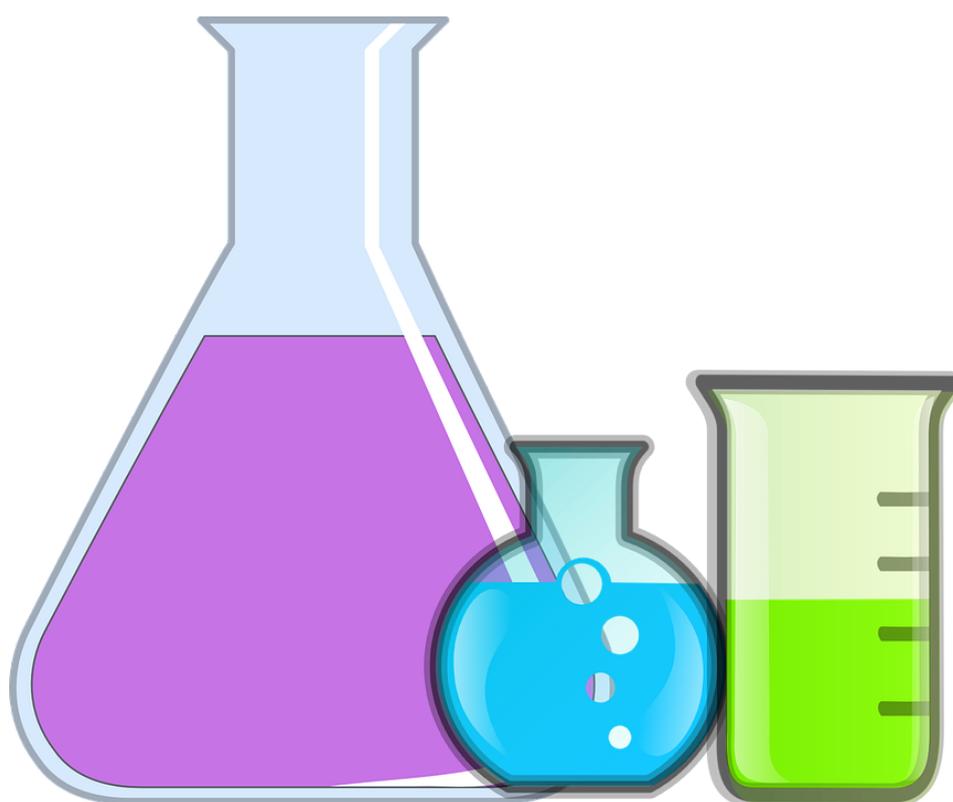


Sixth Form Induction

Chemistry IB Higher Level

Pre-course Preparation



Thank you for your interest in the subject. You will enjoy Chemistry as it is varied and interesting, but it is challenging, so it is good that you have got an opportunity to do some preparation in advance.

As a useful starting point for your studies in September, you should complete the following:

### **Task 1: The Atom Detectives**

**Background information:** Since 5 BC, people have been curious to find out more about different materials and substances. The theory of Democritus said 'Substances are different because homogenous particles have different sizes and shapes and cannot be cut'. This was just the start of many more theories that would be put forward and then rejected over the next 2000 years. Many of the early theories of matter were not based upon experiments. As scientists began to study the relationship between physical phenomena such as electricity and magnetism they began to develop different models about atomic structure.

**Your task:** Use the link to download the Royal Society of Chemistry Document on [https://www.stem.org.uk/system/files/elibrary-resources/legacy\\_files\\_migrated/28934-Atom%20detectives.pdf](https://www.stem.org.uk/system/files/elibrary-resources/legacy_files_migrated/28934-Atom%20detectives.pdf) There are five student worksheets each featuring a scientist who made a significant contribution to the development of atomic theory.

1. Dalton (page 6)
2. Berzelius (page 7)
3. Thomson (page 8)
4. Rutherford (page 9)
5. Bohr (page 10)

Use the information on the factsheets (alongside other sources, e.g. <https://atomictimeline.net/>), to produce a **poster on the development of atomic theory.** When you have completed this, **answer the questions on the modern atomic theory** using pages 11 and 12.

### **Task 2: Background reading**

Choose one source from the recommended chemistry reading list below. I would recommend choosing one article from the archived mole magazine. Write a brief synopsis of what you found out (no more than 200 words)

## Chemistry Reading List

It should be stressed that these lists are in no way exhaustive, students should seek to branch out from these suggestions in order to follow their own interests and passions. If you have any further suggestions then please let Mrs Moore know and she will add them to the list.

### **Inspirational Reading**

Year 11 could use these titles to help with their sixth form choices.

Year 12 must read if studying this subject at sixth form

### **Books**

- The Pleasure of Finding Things Out - Richard Feynman
- Periodic Tales - Hugh Aldersey-Williams
- The Disappearing Spoon - Sam Kean
- Uncle Tungsten - Oliver Sachs
- The Shocking History of Phosphorus: A Biography of the Devil's Element - John Emsley

### **Magazine/Journals**

- The Mole <https://edu.rsc.org/eic/section/the-mole>

### **Websites**

- Periodic Table of Videos by Martyn Poliakoff  
<https://www.youtube.com/user/periodicvideos>
- Royal Society of Chemistry [www.rsc.org.uk](http://www.rsc.org.uk)
- Institution of Chemical Engineers [www.icheme.org](http://www.icheme.org)
- Chemguide [www.chemguide.co.uk](http://www.chemguide.co.uk)

### **Places of Interest**

- Royal Society of Chemistry (6-9 Carlton House Terrace, London, SW1Y 5AG)
- Science Museum (Exhibition Road, South Kensington, London, SW7 2DD)
- Museum of the History of Science, Oxford
- Curie Museum, Paris