

Chemistry Wider Reading List 2023/24



Student Name:

Target Grade:

Inspirational Reading - these are books that students should read if they are studying the subject. These are suggested in order to build enthusiasm and passion for the subject.

- Lesson in Chemistry - Bonnie Garmus (Mr. Prior's recommendation)
- What is Chemistry? - Peter Atkins (Not everybody likes Peter's writing style, but he certainly knows chemistry and every living chemistry undergraduate since 1990 knows his name for good reason. This is a good introduction to some of the concepts encountered during A-level. I have been forced to read many of his books and I'm going to continue that tradition!)
- Chemistry: A very short introduction - Peter Atkins (Mr. Prior's recommendation)
- A Short History of Chemistry - Isaac Asimov (Mr. Prior's recommendation)
- Napoleon's Buttons: How 17 Molecules Changed History by Penny Le Couteur and Jay Burreson (Mr. Prior's recommendation)
- Periodic Tales: The Curious Lives of the Elements - Hugh Aldersey Williams
- The Science of Everyday Life: Why Teapots Dribble, Toast Burns and Light Bulbs Shine - Marty Jopson
- Seven Brief Lessons on Physics - Carlo Rovelli (Physics and quantum theory underpin many of the concepts within your A-Level course, so this short read is well worth the time!)
- Obsessive Genius: The Inner World of Marie Curie - Barbara Goldsmith
- H₂O: A biography of water - Phillip Ball
- What If?: Serious Scientific Answer to Absurd Hypothetical Questions – Randall Monroe
- What If?2: Additional Serious Scientific Answers to Absurd Hypothetical Questions - Randall Monroe
- How To: Absurd Scientific Advice for Common Real-World Problems - Randall Munroe
- Molecules of Murder: Criminal Molecules and Classic Case – John Emsley
- More Molecules of Murder – John Emsley
- Forensic Science: The Science Behind the Truth - Ian Shaw and Anna Sandiford
- The Disappearing Spoon and Other Extraordinary True Tales from the Periodic Table - Sam Kean
- Bad Science - Ben Goldacre
- Periodic Tales: The Curious Lives of the Elements
- Handbook of Cheese Chemistry - Michael H. Tunick
- The Secret Science of Superheroes - Mark Lorch; Andy Miah
- Engineering Health: How Biotechnology Changed Medicine - Lara Marks
- The Rhubarb Connection and Other Revelations: The Everyday World of Metal Ions - Lars Öhrström; Jacques Covès; Raychelle Burks
- Good Enough to Eat? Next Generation GM Crops - Ian D Godwin
- The Horse Who Came to Dinner: The First Criminal Case of Food Fraud - Glenn Taylor
- Perfume in the Bible - Charles Sell
- Traveling with the Atom A Scientific Guide to Europe and Beyond - Glen E Rodgers
- Dust in Galaxies - David A Williams; Cesare Cecchi-Pestellini
- Sticking Together: The Science of Adhesion - Steven Abbott
- Discovering Cosmetic Science - Stephen Barton; Allan Eastham; Amanda Isom; Denise Mclaverty; Yi Ling Soong

It should be stressed that the above list is in no way exhaustive, you should seek to branch out from these suggestions in order to follow your own interests and passions.

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- The Chemistry of Money - Brian Rohrig
- The Science and Commerce of Whisky - Ian Buxton; Paul S Hughes
- Everything Is Natural: Exploring How Chemicals Are Natural, How Nature Is Chemical and Why That Should Excite Us - James Kennedy
- The Chemistry of Plants: Perfumes, Pigments and Poisons - Margareta Séquin
- Vampirology: The Science of Horror's Most Famous Fiend - Kathryn Harkup
- March of the Pigments - Mary Virginia Orna
- Poisonous Tales: A Forensic Examination of Poisons in Fiction - Hilary Hamnett
- Steeped: The Chemistry of Tea - Michelle Franci
- Advice To A Young Scientist - Alfred P. Sloan
- Caesar's Last Breath: The Epic Story of The Air Around Us - Sam Kean
- Chaos: Making a New Science - James Gleick
- Chernobyl: History of a Tragedy - Serhii Plokhly, Leighton Pugh, et al.
- Elegant Solutions: Ten Beautiful Experiments in Chemistry - Philip Ball
- Elephants On Acid: From zombie kittens to tickling machines: the most outrageous experiments from the history of science - Alex Boese
- Electrified Sheep: Bizarre experiments - Alex Boese
- Mauve: How one man invented a colour that changed the world - Simon Garfield
- Oxygen: The molecule that made the world - Nick Lane
- Reactions: The private life of atoms - Peter Atkins
- Stuff Matters: The Strange Stories of the Marvellous Materials that Shape Our Man-made World - Mark Miodownik
- Liquid: The Delightful and Dangerous Substances That Flow Through Our Lives - Mark Miodownik
- The Manga Guide to Biochemistry - Masaharu Takemura , Kikuyaro Kikuyaro, et al.
- The Poisoner's Handbook: Murder and the Birth of Forensic Medicine in Jazz Age New York - Deborah Blum
- The Radium Girls: They paid with their lives. Their final fight was for justice - Kate Moore
- This Man's Pill: Reflections on the 50th Birthday of the Pill - Carl Djerassi

Aspirational Reading - these are books that students should read if they are interested in studying this subject further Post 18. These books are strongly recommended if you are aiming for Grade A*/A in this subject.

- Introduction to Stereochemistry - Andrew Clark; Russ Kitson; Nimesh Mistry; Paul Taylor; Matthew Taylor; Michael Lloyd; Caroline Akamune
- Introduction to Contextual Maths in Chemistry - Fiona Dickinson; Andrew McKinley
- Organic Chemistry - J Clayden, N Greeves, S Warren and P Wothers
- A Guidebook to Mechanism in Organic Chemistry - P Sykes
- Physical Chemistry - P.W. Atkins and J. de Paula
- Inorganic Chemistry - T. Overton, J. Rourke, M. Weller (ideally 7th edition)
- Why Chemical Reactions Happen - J Keeler & P Wothers
- Molecules - P.W Atkins
- Chemistry of the Elements - Greenwood & Earnshaw, Pergamon
- Foundations of Organic Chemistry - Hornby & Peach
- A Guide to Mechanism in Organic Chemistry - Sykes, Pearson
- Organic Chemistry - Maitland, Jones, Norton

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Other Sources of Information

For example; websites, magazines, journals, podcasts etc

<https://books.rsc.org/books/collection/7405/Popular-Science>

<https://books.rsc.org/books/collection/82/Drug-Discovery>

<https://books.rsc.org/books/collection/72/Food-Chemistry-Function-and-Analysis>

<https://books.rsc.org/books/collection/84/Nanoscience-Nanotechnology>

Chemistry Review is a quarterly magazine from Hodder Education and subscriptions may be purchased ever directly with them.

The New Scientist and Scientific American – these both cover general science at a level accessible to A-level students. Both are available at local libraries (often electronically) and in some school libraries.

Quantum: A Guide For The Perplexed by Jim Al-Khalili. I also recommend viewing any videos Jim has done on Physics on BBC Four or on YouTube, this though is a decent primer on the strange things that happen when viewing matter at the atomic scale.

Our Mathematical Universe: My Quest for the Ultimate Nature of Reality by Max Tegmark. A much grander view of the entire cosmos as seen through the eyes of modern day Physics. Well worth reading through if you have an interest in cosmology and a basic appreciation of Quantum Mechanics. Max is considered to be a 'Rock Star' Physicist amongst the scientific community.

Physics and Technology for Future Presidents by Richard A. Muller. There is also a shorter version of this book titled 'Physics for future presidents'. The longer version is an entertaining account of the Physics people encounter in everyday life.

BBC Sounds Podcasts "Elements" and "In their element" - Two brilliant podcasts that look at individual elements in turn. "In their element" features specialists talking about the element the work centres on, while "Elements" looks at the role specific elements play in global economics.

A Taste for Poison by Neil Bradbury. This is an interesting read about biochemistry masquerading as a book on poisons and poisoners. It also covers the use of radioisotopes so ticks the physics, chemistry and biology boxes.

Periodic Videos - This is a YouTube channel started by the Chemistry department of the University of Nottingham, the videos are fantastically interesting, with a series of videos analysing the properties of all the elements in the periodic table, with other videos exploring various molecules, reactions and fascinating scientific concepts. The videos are presented by Professor Martyn Poliakoff and include many different academics with specialities in many areas of Chemistry, I'd highly recommend watching some of their content if you are at all interested in Chemistry!

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