

Outreach Book List - Chemistry

Chemistry			
Title of book	Suggested by	Blurb	Review
1 The Disappearing Spoon by Sam Kean	<i>Suggested by Daisy Rogers-Simmonds, Research Postgraduate Chemistry</i>	<p>Why did Gandhi hate iodine (I, 53)? Why did the Japanese kill Godzilla with missiles made of cadmium (Cd, 48)? How did radium (Ra, 88) nearly ruin Marie Curie's reputation? And why did tellurium (Te, 52) lead to the most bizarre gold rush in history?</p> <p>The periodic table is one of our crowning scientific achievements, but it's also a treasure trove of passion, adventure, betrayal and obsession. The fascinating tales in The Disappearing Spoon follow carbon, neon, silicon, gold and every single element on the table as they play out their parts in human history, finance, mythology, conflict, the arts, medicine and the lives of the (frequently) mad scientists who discovered them.</p>	<p><i>I recommend this book for anyone with an interest in chemistry. The author takes you on a tour of the periodic table, showcasing how a variety of elements from the notorious to the obscure have driven advancements in chemistry. The author places an emphasis on how these advancements in chemistry have impacted health, politics, economics, war and technology – and how it has not always, knowingly or unknowingly, been used for good. A focus on the societal impact of chemistry is effectively used as a vehicle to introduce higher-level concepts in chemistry that reach beyond the syllabus. The main reason that I really love this book and come back to it time and time again is the way that key scientific figures are really brought to life. Kean paints a full and thoroughly unvarnished picture of famous people like Marie Curie and really makes them feel human, rather than the abstract, one-dimensional characters they are often portrayed as. It's certainly not a textbook, but I think it does a good job of introducing the breadth of chemistry.</i></p>
2 Uncle Tungsten – Memories of a chemical boyhood by Oliver Sacks	<i>Suggested by Daniel Glass, Research Postgraduate Physics</i>	<p>Long before Oliver Sacks became a distinguished neurologist and bestselling writer, he was a small English boy fascinated by metals—also by chemical reactions (the louder and smellier the better), photography, squids and cuttlefish, H.G. Wells, and the periodic table. In this endlessly charming and eloquent memoir, the author of The Man Who Mistook His Wife for a Hat and Awakenings chronicles his love affair with science and the magnificently odd and sometimes harrowing childhood in which that love affair unfolded.</p>	<p><i>An autobiography like you've never seen it. Coming from a large very scientific family Oliver Sacks walks you through his life in chemistry, from a child's fascination of science and nature to his early career days. Aside from seeing a whole range of elements and compounds in a light you never thought was possible, Sacks presents a history of chemistry and science through his journey of discovery. Although the book focuses primarily on Sacks's chemistry adventures the book appeals to all, from the young budding scientist to a renown professor. As you turn through the pages you get to join the experiments, excitement and the memories of a chemical boyhood during war time Briton. The book portrays an admiral raw passion and excitement for the thrill and discovery of science.</i></p>
3 Periodic Tales: The Curious Lives of the Elements by Hugh Aldersey-Williams	<i>Suggested by Dr Mel Bottrill, Deputy Head of Outreach</i>	<p>Like you, the elements have personalities, attitudes, talents, shortcomings, stories rich with meaning. Here you'll meet iron that rains from the heavens and noble gases that light the way to vice. You'll learn how lead can tell your future while zinc may one day line your coffin. You'll discover what connects the bones in your body with the Whitehouse in Washington, the glow of a streetlamp with the salt on your dinner table.</p> <p>Unlocking their astonishing secrets and colourful pasts, Periodic Tales is a voyage of wonder and discovery, showing that their stories are our stories, and their lives are inextricable from our own.</p>	<p><i>As a complete nerd about the periodic table, I love this book because it showcases the human stories behind the elements. The periodic table is something that I found intimidating as a school student, but as I studied chemistry at A-Level I began to love and to realise how beautiful I found it. We often see it as a tool, concentrating on its properties and patterns, but it is so much more and this book demonstrates how much more it is. It is a tour of discovery, outlining the stories of the different discoveries of the elements, the people that discovered them and interesting and funny facts about how they are used – almost a travelogue of the elements. You don't have to be studying chemistry to find something enjoyable about this book!</i></p>

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<p>4 Stuff Matters: Exploring the Marvelous Materials That Shape Our Man-Made World by Mark Miodownik</p>	<p><i>Louise Li, undergraduate Chemistry student and Outreach Ambassador</i></p>	<p>In Stuff Matters, Miodownik entertainingly examines the materials he encounters in a typical morning, from the steel in his razor and the graphite in his pencil to the foam in his sneakers and the concrete in a nearby skyscraper. He offers a compendium of the most astounding histories and marvelous scientific breakthroughs in the material world.</p>	<p><i>Having never studied Materials Science at school, this book tapped into a whole new world that I had never previously given much thought to. The blurb captured my attention instantly, and I was keen to discover more about the ordinary and not-so-ordinary materials that have shaped the lives of humanity, and continue to be developed in advanced research labs across the world.</i></p> <p><i>Told in the first person, as a story of the author going about his daily routine, the book encompasses objects and matter from every aspect of life: From ornate tea-cups to dynamic jet engines, and silicon chips to the fabrics of our t-shirts.</i></p> <p><i>Stuff Matters is a highly entertaining read, accessible to all and as one of the first "popular science" books I ever read (that also featured in my personal statement!), I cannot recommend it enough!</i></p>
<p>5 CHEMISTRY – A Very Short Introduction by Peter Atkins</p>	<p><i>Diana Tanase, Research Postgraduate Chemistry and Outreach Ambassador</i></p>	<p>Chemistry: A Very Short Introduction encourages us to look at chemistry anew, through a chemist's eyes, in order to understand its central concepts and to see how it contributes towards our material comfort and to human culture. It shows how chemistry provides the infrastructure of our world, through the chemical industry, the fuels of heating, power generation, and transport, as well as the fabrics of our clothing and furnishings.</p>	<p><i>I love chemistry but I met plenty of people who not only struggle to understand why I love chemistry, but also question my sanity. Peter Atkins' short introduction to the world of chemistry has been an amazing resource of defence arguments for me. Atkins is a name most chemists will recognize because he has written some amazing physical chemistry textbooks. His insight and exposure to the field make this short book a great introduction into what chemistry is and how it has revolutionised the world we live in. I recommend this book if you are getting ready to write your personal statement or if you are just trying to figure out why people study chemistry. Peter Atkins' passion and enthusiasm really are contagious!</i></p>