

Chemistry reading list



Key Stage 3 chemistry

Here's a **KS3 Chemistry Reading List** designed to help students build a strong foundation in chemistry and develop their understanding of basic concepts in an engaging way. These books and resources range from introductory science books to more focused chemistry texts, ensuring a mix of readability and educational content.

Introductory Chemistry and Science Books

1. **"What is Chemistry?" by Peter Atkins**
 - A fantastic introduction to chemistry for young readers. It explains the core ideas of chemistry and how it impacts the world around us, in a conversational tone.
2. **"The Usborne Illustrated Dictionary of Chemistry"**
 - Ideal for students at KS3 level, this book is filled with detailed illustrations and explanations of key chemistry terms and concepts. It's a great reference tool for understanding chemical reactions, elements, and the periodic table.

General Science and Chemistry Fiction

3. **"The Manga Guide to Chemistry" by Masaaki Mitani**
 - A unique way to learn chemistry concepts through a story-driven manga format. It presents chemical reactions and principles in an engaging and enjoyable narrative, helping students grasp difficult ideas.
4. **"Horrible Science: Chemical Chaos" by Nick Arnold**
 - Part of the Horrible Science series, this book uses humor and quirky illustrations to explain chemistry concepts in a fun, accessible way. It's great for keeping students entertained while learning.

Key Stage 4 chemistry

Here's a reading list tailored for KS4 level Chemistry students (ages 14-16), which aligns with the GCSE Chemistry syllabus. This includes supplementary reading to deepen understanding and foster curiosity in chemistry.

- 1) **"The Elements: A Visual Exploration of Every Known Atom in the Universe"** – by Theodore Gray

A beautifully illustrated book that brings the periodic table to life, providing real-world applications of the elements.

- 2) **"Why Chemical Reactions Happen"** – by James Keeler and Peter Wothers.
This book explores the underlying principles behind chemical reactions and is suitable for advanced students interested in chemistry.
- 3) **"The Joy of Chemistry: The Amazing Science of Familiar Things"** – by Cathy Cobb and Monty L. Fetterolf
A fun read that introduces chemical principles through everyday objects and occurrences, making complex ideas more relatable.
- 4) **"Periodic Tales: The Curious Lives of the Elements"** – by Hugh Aldersey-Williams
A lively exploration of the periodic table, blending science, history, and culture around the elements.
- 5) **"The Molecule of More"** – by Daniel Z. Lieberman and Michael E. Long
While this book focuses more on the brain chemistry of dopamine, it offers an interesting perspective on how chemistry influences human behavior.

Key Stage 5 chemistry

A reading list for KS5 (Key Stage 5, typically ages 16-18) chemistry should include a mix of textbooks, reference books, and popular science books to support A-level or equivalent courses and inspire further interest in the subject. Here's a recommended reading list:

Core Textbooks

This is the textbook directly related to the A-level chemistry curriculum:

- 1) **"AQA Chemistry A Level Student Book"** by Ted Lister and Janet Renshaw.
This textbook is excellent for AQA A-level chemistry and covers all topics comprehensively.

Reference Books

These provide deeper explanations and can help strengthen understanding:

- 2) **"Chemistry in Context"** by Graham Hill and John Holman
This book provides context-based approaches to key chemistry topics, linking the subject to everyday life and applications.
- 3) **"Inorganic Chemistry"** by Catherine Housecroft and Alan G. Sharp.
A great book for those interested in in-depth inorganic chemistry, suitable for more advanced studies.
- 4) **"Organic Chemistry"** by Jonathan Clayden, Nick Greeves, and Stuart Warren.
Often recommended for those who wish to pursue organic chemistry further, this book provides clear and detailed explanations.

Popular Science Books

- 5) **"Napoleon's Buttons: How 17 Molecules Changed History"** by Penny Le Couteur and Jay Burreson
This book explores how certain molecules have had a significant impact on historical events.
- 6) **"Molecules: The Elements and the Architecture of Everything"** by Theodore Gray. A companion to "The Elements," this book delves into the world of molecules and their role in the natural world.

Advanced Reading for Enthusiasts

For students who are considering pursuing chemistry at university, these more advanced books can provide an insight into higher-level chemistry:

- 7) **"Physical Chemistry"** by Peter Atkins and Julio de Paula
This book provides a thorough exploration of physical chemistry topics like thermodynamics, kinetics, and quantum chemistry.
- 8) **"Why Chemical Reactions Happen"** by James Keeler and Peter Wothers
A deeper exploration of the reasons behind chemical reactions and the fundamental principles of chemistry.
- 9) **"Quantum Chemistry"** by Donald A. McQuarrie

For students interested in the mathematical side of chemistry, this book covers the quantum mechanical foundations of chemical bonding.

Chemistry-related Journals

Reading academic journals can expose students to the latest research and developments in chemistry:

10) "Nature Chemistry"

leading journal covering cutting-edge research in chemistry, accessible through libraries or schools.

11) Journal of the American Chemical Society (JACS)

One of the world's premier chemistry journals, offering insights into groundbreaking research