



PHYSICS
Reading List





Year 9, Middle School and Sixth Form

Fiction

This list contains works considered as 'hard' science fiction. They are all stories that involve real physics or astronomy in some way.

- Mission of Gravity - Hal Clement
- The Fountains of Paradise - Arthur C Clarke
- Ringworld - Larry Niven
- Dragon's Egg - Robert Forward
- Timescape - Gregory Benford
- The Black Cloud - Fed Hoyle
- Tau Zero - Paul Anderson
- The Moon is a Harsh Mistress - Robert A Heinlein
- Contact - Carl Sagan
- The Forever Way - Joe Haldeman

Non-Fiction

- Black Holes, Wormholes and Time Machines - Jim Al Khalili
- Quantum Theory cannot Hurt You - Marcus Chown
- Why Does $E=mc^2$ - Brian Cox
- Great Physicists - William Cropper
- The Last Three Minutes - Paul Davies
- Relativity: The Special and the General Theory - Albert Einstein
- QED – The Strange Theory of Light and Matter - Richard Feynman
- The Elegant Universe - Brian Greene
- In Search of the Big Bang - John Gribbin
- In Search of Schrodinger's Cat - John Gribbin
- Schrodinger's Kittens - John Gribbin
- A Brief History of Time - Stephen Hawking
- Universe in a Nutshell - Stephen Hawking
- Einstein: His Life and Universe - Walter Isaacson
- The Fifth Essence - Lawrence Krauss
- The Bigger Bang - James Lindsay
- Hyperspace - Kaku Michio
- Just Six Numbers - Martin Rees
- Six Lessons in Physics - Carlo Rovelli
- Seven Brief lessons in Physics - Carlo Rovelli
- Does God Play Dice? - Ian Stewart
- Blackholes and Timewarps: Einstein's Outrageous Legacy - Kip Thorne
- The First Three Minutes - Steven Weinberg

Specific Engineering Books



- Invisible Women - Caroline Criado Perez
- Not much of an Engineer - Stanley Hooker
- Sustainable Energy – without the hot air by David Mackay (available free at <https://www.withouthotair.com/>)
- Spaceman by Mike Massimimo
- The Wavewatchers Companion - Gavin Pretor Pinney
- Exactly – How precision Engineers built the modern world - Simon Winchester

Audio-Visual

- <http://particleadventure.org>
- <https://phet.colorado.edu/>
- <https://www.khanacademy.org/science/physics>
- <https://www.youtube.com/user/minutephysics>
- <https://isaacphysics.org/>
- <https://i-want-to-study-engineering.org/>
- <http://video.mit.edu/channel/physics/>

In Our Time - Melvyn Bragg and guests discuss the history of ideas. Examples of relevant episodes: The Age of the Universe, Radiation, The Vacuum of Space, The Measurement Problem in Physics, The Multiverse, Gravitational Waves, The Speed of Light...

<https://www.bbc.co.uk/programmes/b006qykl/episodes/downloads>

The Life Scientific - Professor Jim Al-Khalili talks to leading scientists about their life and work, finding out what inspires and motivates them and asking what their discoveries might do for mankind.

<https://www.bbc.co.uk/programmes/b015sqc7>

Frontiers - Programme exploring new ideas in science and meeting the scientists and researchers responsible for them, as well as hearing from their critics.

<https://www.bbc.co.uk/programmes/b006qy5p/episodes/downloads>