






SMCS SUPER-CURRICULUM

Science

		READ 	WATCH / LISTEN 	DO / VISIT 
Year 7	Autumn 1	Why don't penguins feet freeze? New Scientist	Subscribe to the 'Science Max' channel on YouTube and watch the experiments!	Visit the 'Body Worlds' museum in Piccadilly Circus, London
	Autumn 2	Women in Science: 50 fearless pioneers who changed the world, Rachel Ignatofsky	Find a book in the school library that helps you with what you are currently learning about in class. Use to add to your class work.	Create a song to remember the names of the first 20 elements
	Spring 1		Listen to a podcast on Fizzics education	Write a news report about what you think is the most important scientific discovery.
	Spring 2		Find the strava app and collect data on your journey to school or a walk/a run. Use time and distance to calculate and check speed.	Visit Whipsnade or London zoo and find out more about the endangered species that they have there.

	Summer 1		Watch; The hunter and the hunted https://www.bbc.co.uk/iplayer/episode/b01qry6h/life-onearth-11-the-hunters-and-thehunted	Create your own worm farm or ant farm (can be bought in a lot of garden centres or online).
	Summer 2		Cool Science Experiments on YouTube. https://www.youtube.com/watch?v=4MHn9Q5NtdY	Download an app on the stars and constellations then go outside at night to identify them
Year 8	Autumn 1	100 Things to know about Space, Alex Frith, Alice James and Jerome Martin	Cool Science Experiments on YouTube. https://www.youtube.com/watch?v=4MHn9Q5NtdY https://www.youtube.com/watch?v=D2j8qlsbLOU	Science Museum, London
	Autumn 2		Make your own Quizizz on a topic of your choice and ask your Science teacher to share it with the class	London Planetarium, Greenwich
	Spring 1		Find the strava app and collect data on your journey to school or a walk/a run. Use time and distance to calculate and check speed.	Download an app on the stars and constellations then go outside at night to identify them
	Spring 2		Watch; The hunter and the hunted https://www.bbc.co.uk/iplayer/episode/b01qry6h/life-onearth-11-the-hunters-and-thehunted	Watch some shows by Marty Jopson, the science guy from The One Show.
	Summer 1		Elements podcasts http://www.rsc.org/periodic-table/podcast	Give a presentation to your science class about your favourite scientist.

	Summer 2		10 weird and wonderful chemical reactions https://www.youtube.com/watch?v=0Bt6RP2ANI	
Year 9	Autumn 1	'Fun Science: A Guide to Life, the Universe and Why Science Is So Awesome' by Charlie McDonnell	Watch: Cosmos: A Spacetime Odyssey In this 13-episode documentary, astrophysicist Neil deGrasse Tyson takes viewers on an intergalactic adventure, exploring different themes in each episode. Episodes investigate the Milky Way, molecules, gravity, the greenhouse effect, and more	Visit London zoo
	Autumn 2	'Why Can't Elephants Jump?: And 113 Other Tantalising Science Questions' by New scientist	Pick a podcast and tell your teacher about what you learnt from it: https://www.sciencepodcastforkids.com/	Give a presentation to your science class about your favourite scientist.
	Spring 1	Read an article from New Scientist magazine and write a mini report.	Elements podcasts http://www.rsc.org/periodic-table/podcast	Visit the natural history museum
	Spring 2	'Deadly Choices: How the Antivaccine movement threatens us all' by Paul Offit	Download an app on the stars and constellations then go outside at night to identify them	Find out what vaccinations you have had in your life. Why are these systematically given to children?
	Summer 1	'The Secret Lives of the Elements' by Kathryn Harkup	Write a news report about what you think is the most important scientific discovery	Science Museum, London
	Summer 2	'Human Universe' by Brian Cox	Watch: https://www.youtube.com/watch?v=enSXh4YY9Ws Brian Cox Science brought down to earth	London Planetarium, Greenwich

Year 10	Autumn 1	'Why Can't Elephants Jump?: And 113 Other Tantalising Science Questions' by New scientist	Visit the Queen Mary University of London Pathology Museum and tell your class all about what you saw. https://www.qmul.ac.uk/pathologymuseum/	Get involved with RAWMINDS A Wellcome Collection youth engagement initiative for teenagers 14-19 to experiment with art and science, get creative and learn new skills.
	Autumn 2	'Deadly Choices: How the Antivaccine movement threatens us all' by Paul Offit	https://www.womeninstem.co.uk/ Watch: women in stem	Saturday Studio opportunities at the Wellcome collection. Try out creative activities inspired by Wellcome Collection (14-19)
	Spring 1		Inside Nature's Giants video series https://www.youtube.com/watch?v=PFLSLyzGYK8	Visit: The Royal Observatory in Greenwich
	Spring 2		Incredible Medicine: Dr Weston's Casebook. Extraordinary cases that are bringing new discoveries about the human body. https://goo.gl/V82X5t	Download and listen to podcast 'The Infinite Monkey Cage'
	Summer 1		https://player.fm/series/hey-science-fans	Visit: The Wellcome Collection permanent exhibitions Medicine now and Medicine Man
	Summer 2		Watch: https://www.youtube.com/watch?v=enSXh4YY9Ws Brian Cox Science brought down to earth	Kew Gardens London

Year 11	Autumn 1		https://player.fm/series/hey-science-fans	Visit: The Royal Institution in London
	Autumn 2		https://www.oxfordhomeschooling.co.uk/study-tips/revision-podcasts-for-gcse-exams/	Visit: The Wellcome Collection permanent exhibitions Medicine now and Medicine Man
	Spring 1	Read: The disappearing spoon and other tales from the periodic table by Sam Kean	Watch: https://www.youtube.com/watch?v=enSXh4YY9Ws Brian Cox Science brought down to earth	Visit: The Royal Observatory in Greenwich
	Spring 2	Read : Chemistry for breakfast	Watch: Incredible Medicine: Dr Weston's Casebook. Extraordinary cases that are bringing new discoveries about the human body. https://goo.gl/V82X5t	Download and listen to podcast 'The Infinite Monkey Cage'
	Summer 1	Read: Steven Hawkins Brief answers to BIG questions	Crash course videos (Biology, Chemistry & Physics playlists) https://www.youtube.com/user/crashcourse/playlists?shelf_id=0&view=1&sort=dd	Visit The Freud museum London
	Summer 2	Read: The science of breakable things by Tae Keller	https://what-if.xkcd.com/ e.g. Would a toaster still work in the freezer? How many fireflies would it take to match the brightness of the sun? 'What if?' takes a look at some absurd hypothetical questions and gives serious scientific answers to them.	Natural History museum

Year 12 BIOLOGY	Autumn 1 2	This is going to hurt – Adam Kay	BBC iPlayer - Incident Room - Measles Outbreak: Why Now?	The science museum, London
	Autumn 2	The language instinct, Steve Pinker	BBC iPlayer - Brain Hacks	Body worlds, Amsterdam
	Spring 1	The machinery of life, David S. Goodsell	BBC iPlayer - Making Sense of Cancer with Hannah Fry	The old operating surgery museum, London
	Spring 2	This is biology: the science of the living world, Ernst Mayr	BBC iPlayer - Wonders of Life - Original Series: 3. Endless Forms Most Beautiful	Cambridge Botanic gardens, Cambridge
	Summer 1	The origin of humankind, Richard Leaky	BBC iPlayer - The Mating Game - Series 1: 1. Grasslands: In Plain Sight	Down house – home of Charles Darwin
	Summer 2	The selfish gene, Richard Dawkins	BBC iPlayer - Life Story	London Zoo, London

Year 13 BIOLOGY	Autumn 1	The immortal life of Henrietta Lacks, Rebecca Skloot	BBC iPlayer - Planet Earth III	Thinktank, science museum, Birmingham
	Autumn 2	On the origin of species, Charles Darwin	BBC iPlayer - Madagascar	Young science centre, London
	Spring 1	DNA: the secret life of the double helix, James Watson	BBC iPlayer - Storyville - Keeping It Up: The Story of Viagra	Wellcome collection, London
	Spring 2	The lives of a cell, Lewis Thomas	BBC iPlayer - Dr Xands Con or Cure - Series 2: Episode 1	Hunterian museum, London
	Summer 1	The selfish gene, Richard Dawkins	BBC iPlayer - Between Life and Death	Colchester zoo, Colchester
	Summer 2	The diversity of life, Edward O Wilson	BBC iPlayer - The Skinny Jab Uncovered	Kew Gardens, London
Year 12	Autumn 1 2	Periodic Tales, the Curious Lives of the Elements By Hugh Aldersey Williams	https://player.fm/series/the-episodic-table-of-elements Watch podcast on the true stories behind each element	Visit the royal society of medicine in London

	Autumn 2	Chemistry, Matter and the Universe By Richard E Dikerson	https://player.fm/series/chemistry-for-your-life Chemistry for life podcast	The crystal London
	Spring 1	The Science of Everyday Life: Why Teapots Dribble, Toast Burns and Light Bulbs Shine By Marty Jopson	https://www.chemistryworld.com/news/how-a-new-carbon-allotrope-could-change-the-definition-of-aromaticity/4018823.article Exciting news : new carbon allotrope read the article from chemistry world	Visit The Freud museum London
	Spring 2	The Disappearing Spoon...and other true tales from the Periodic Table By Sam Kean	https://what-if.xkcd.com/ e.g. Would a toaster still work in the freezer? How many fireflies would it take to match the brightness of the sun? 'What if?' takes a look at some absurd hypothetical questions and gives serious scientific answers to them.	Visit The body worlds London
	Summer 1	Chemistry, Matter and the Universe By Richard E Dikerson	Podcasts: https://www.podbean.com/podcast-detail/u3vaq-3814b/A-Level-Chemistry-Revision- Podcast A range of weekly podcasts designed to offer revision material for AS and A Level Chemistry	10 weird and wonderful chemical reactions https://www.youtube.com/watch?v=0Bt6RPP2ANI
	Summer 2	Read: The immortal life of Henrietta Lacks by Rebecca Skloot. About HeLa cells and the ethics behind it.	https://www.oxfordsparks.ox.ac.uk/ Listen to BIG Questions podcasts or watch videos exploring many exciting aspects of science in our world today	podcast from the Radiolab http://www.radiolab.org/
Year 13	Autumn 1	Chemistry, Matter and the Universe By Richard E Dikerson	https://explore.org/	The crystal London

	Autumn 2	Introducing Inorganic and Physical Chemistry By Burrows et al	https://www.univ.ox.ac.uk/applying-to-univ/staircase12/	Visit The body worlds London
	Spring 1	Royal Society of Chemistry, Periodic Table Podcast	https://myheplus.com/	Visit The Freud museum London
	Spring 2	The Science of Everyday Life: Why Teapots Dribble, Toast Burns and Light Bulbs Shine By Marty Jopson	https://blog.ed.ted.com/2017/03/16/9-ted-talks-recommended-by-students-for-students/	Fantastic Four movie and then watch the clip where the science is explained http://nerdist.com/michio-kakuexplains-the-real-sciencebehind-fantastic-four/
	Summer 1	The Tale of the Dueling Neurosurgeons, by Sam Kean	https://www.oxfordsparks.ox.ac.uk/ Listen to BIG Questions podcasts or watch videos exploring many exciting aspects of science in our world today	Visit: Kew Gardens London
	Summer 2	Surely You're Joking Mr Feynman: Adventures of a Curious Character, Ralph Leighton	https://www.chemistryworld.com/news/how-a-new-carbon-allotrope-could-change-the-definition-of-aromaticity/4018823.article Exciting news : new carbon allotrope read the article from chemistry world	Listen to the podcast from the Radiolab http://www.radiolab.org/
	Year 12	Autumn 1 2	Furry Logic – Matin Durrani and Liz Kalaugher	Your future with physics: A guide for young people Institute of Physics (iop.org)

	Autumn 2	A Very Short Introduction Series – Oxford University Press	StarTalk Radio Show by Neil deGrasse Tyson - Science, pop culture & comedy collide on StarTalk w/ astrophysicist & Hayden Planetarium director Neil deGrasse Tyson, comic co-hosts, celebrities & scientists. : Monday, Neil deGrasse Tyson and Dr. Paul Offit, MD, Talk COVID-19 Vaccines (startalkmedia.com)	Youth Stemm Award (ysawards.co.uk)
	Spring 1	The Character of Physical Law - R.P. Feynman	Physics University of Oxford Podcasts	British Physics Olympiad https://www.bpho.org.uk/
	Spring 2	The Quantum Universe - T. Hey & P. Walters	Watch: Wonders of the Universe Series – Brian Cox	Year 12 Online Masterclass (March 2024) University of Oxford Department of Physics
	Summer 1	The Flying Circus of Physics - J. Walker	Explore resources on CERN website Resources CERN (home.cern)	CREST Awards - CREST Awards
	Summer 2	A Brief History of Time - Stephen Hawking	Physics - Things We Don't Know (thingswedontknow.com)	Visit: The Cavendish Museum Department of Physics (cam.ac.uk)
	Year 13 PHYSICIS	Autumn 1	A Short History of Nearly Everything - Bill Bryson	Isaac Physics - complete physics problems
Autumn 2		Coming of Age in the Milky Way - T. Ferris	http://www.physicslab.org/Compilations/NextTime.aspx Conceptual Physics questions	Physics in Advent (physics-in-advent.org)

Spring 1	The New World of Mr Tompkins - G. Gamow	Seven days on Mars – Brian Cox https://www.bbc.co.uk/iplayer/episode/m0018cd1/brian-cox-seven-days-on-mars	Visit: Royal Observatory Royal Museums Greenwich (rmg.co.uk)
Spring 2	Richard Feynman Lecture series	BBC Radio 4 - The Infinite Monkey Cage	Problem of the Week DEPARTMENT OF PHYSICS (harvard.edu)
Summer 1	How Things Work - Louis A Bloomfield	Explore The Home of Big Questions	Watch Now Gresham College
Summer 2	Professor Povey's Perplexing Problems - Thomas Povey	Ologies Episodes — alie ward	Learning Resources - NASA