

SCIENCE

SUPER CURRICULUM ACTIVITIES

WEBSITES:

- **NASA's Teen Website** (<https://www.nasa.gov/stem/forstudents/9-12/index.html>): NASA has a dedicated website for teenagers that covers space exploration, missions, and various STEM-related topics. It includes articles, videos, and educational games.
- **National Geographic Kids** (<https://www.natgeokids.com/uk/>): National Geographic offers a section specifically designed for kids and teenagers. It covers a wide range of science and nature topics, including wildlife, geography, and environmental issues.
- **Exploratorium's Science Snacks** (<https://www.exploratorium.edu/snacks>): Exploratorium offers a collection of hands-on science experiments and activities that teenagers can do at home or in the classroom. These experiments are designed to be fun and educational.
- **Bill Nye's Official Website** (<https://www.billnye.com/>): Bill Nye, the Science Guy, has a website with videos, articles, and resources that explain scientific concepts in an engaging and entertaining way.
- **Science Buddies** (<https://www.sciencebuddies.org/>): Science Buddies provides a wealth of science project ideas, resources, and tools to help teenagers explore their scientific interests and conduct experiments.
- **SciShow and SciShow Kids** (<https://www.youtube.com/channel/UCZYTClx2T1of7BRZ86-8fow>): SciShow and SciShow Kids are YouTube channels that produce informative and entertaining videos about a wide range of science topics.
- **Science Friday** (<https://www.sciencefriday.com/>): The Science Friday website features articles, videos, and podcasts on current science-related news and discoveries, making science accessible and interesting for teenagers.
- **HowStuffWorks** (<https://www.howstuffworks.com/>): HowStuffWorks covers a variety of topics, including science, in an engaging and informative manner. It's a great resource for curious teenagers.

BOOKS:

- "The Immortal Life of Henrietta Lacks" by Rebecca Skloot - This non-fiction book explores the story of Henrietta Lacks, whose cells were used for scientific research without her consent, leading to significant medical discoveries.
- "Astrophysics for Young People in a Hurry" by Neil deGrasse Tyson - Neil deGrasse Tyson simplifies complex astrophysical concepts in a way that's accessible and engaging for young readers.
- "The Disappearing Spoon: And Other True Tales of Madness, Love, and the History of the World from the Periodic Table of the Elements" by Sam Kean - this book delves into the fascinating history and stories behind the elements in the periodic table.

- "The Code Book: The Science of Secrecy from Ancient Egypt to Quantum Cryptography" by Simon Singh - Teens interested in the history of cryptography and its importance in today's digital world will find this book captivating.
- "The Emperor of All Maladies: A Biography of Cancer" by Siddhartha Mukherjee - A compelling exploration of the history and science of cancer, this book provides valuable insights into one of the most significant health challenges of our time.
- "Hidden Figures: The True Story of Four Black Women and the Space Race" by Margot Lee Shetterly - This book tells the inspiring true story of the African-American women mathematicians who played crucial roles in the early days of NASA.
- "The Brain that Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science" by Norman Doidge - A captivating exploration of the brain's ability to adapt and change, with real-life stories of people who have overcome neurological challenges.
- "Gulp: Adventures on the Alimentary Canal" by Mary Roach - Mary Roach takes readers on a humorous and informative journey through the digestive system, making science fun and engaging.
- "The Man Who Knew Infinity: A Life of the Genius Ramanujan" by Robert Kanigel - This biography explores the life and work of the brilliant mathematician Srinivasa Ramanujan, who made significant contributions to number theory.
- "The Wild Robot" by Peter Brown - A science-fiction novel suitable for younger teens, this book tells the story of a robot's survival and adaptation in the wilderness, blending science and adventure.

SPECIALIST MAGAZINES/ARTICLES/JOURNALS:

These resources can be a great starting point for teenagers interested in science.

[1] [Science Journal for Kids and Teens](#)

[2] [The Scientific Teen | Youth Science Magazine](#)

[3] [Frontiers for Young Minds: Science for kids, edited by kids](#)

PODCASTS:

1. [TUMBLE:](#) This podcast tells stories of scientific discoveries with the help of scientist.

2. [60 SECOND SCIENCE:](#) Have a few minutes left at the end of class? Check out this podcast from Scientific American.

- [3. SKEPTOID:](#) This podcast takes popular myths and reveals the true science and history behind them.
- [4. BIG BIOLOGY:](#) This podcast is “scientists talking to scientists” about biology topics. I would recommend this podcast to older students, as some of the topics are more complex.
- [5. BRAINS ON:](#) For younger students, where kids find answers to fascinating questions about our world.
- [6. NATURE:](#) The journal Nature also has a podcast.
- [7. SCIENCE MAGAZINE:](#) Comes out with weekly podcast episodes.
- [8. 30 ANIMALS THAT MADE US SMARTER:](#) Put out by the BBC.
- [9. THE WILD:](#) Explores how nature survives and thrives along side (and often despite) humans.
- [10. SCIENCE VS:](#) This podcast takes on fads and trends to find out what’s fact, what’s not, and what’s somewhere in between.
- [11. OVERHEARD:](#) This Nat Geo podcast dives into “one of the curiously delightful conversations we’ve overheard at National Geographic’s headquarters.”
- [12. UNDISCOVERED:](#) Is a podcast about the left turns, missteps, and lucky breaks that make science happen.
- [13. THE BIG FIB:](#) Each week, a kid interviews two experts in a particular topic, one of which is a genuine credentialed expert, and the other is a liar. Students learn to weigh evidence and trust their gut!
- [14. NASA SCIENCE CASTS:](#) Join NASA as they look into the science behind discoveries on Earth, the Solar System, and beyond.
- [15. SHABAM:](#) Blends fictional stories with real science.
- [16. STAR TALK:](#) Talks about everything under the sun and has hosts including Bill Nye and Neil deGrasse Tyson.

Films and Documentaries:

BBC iPlayer documentaries: [Science and Nature Documentaries](#)

YOUTUBE CHANNELS:

Here are some popular YouTube channels for science education:

1. CrashCourse: With over 900 videos, CrashCourse covers a wide range of topics, including world history, psychology, astronomy, and statistics. [3]
2. SciShow: SciShow explores various scientific subjects, from biology and chemistry to physics and astronomy, through entertaining and informative videos.
3. Periodic Videos: This channel, created by the University of Nottingham, focuses on the elements of the periodic table, showcasing experiments and explanations related to each element.

4. AsapScience: AsapScience offers fun and engaging videos that cover a variety of scientific topics, including biology, chemistry, and physics, presented in a visually appealing and easy-to-understand format.
5. Minute Physics: Minute Physics provides short and concise videos that explain complex physics concepts in simple terms, making them perfect for quick learning.
6. Veritasium: Veritasium explores the mysteries of science through experiments, interviews, and demonstrations, covering topics such as physics, psychology, and engineering.
7. Kurzgesagt - In a Nutshell: Kurzgesagt creates animated videos that delve into scientific topics, including space, biology, and technology, offering in-depth explanations and insights.
8. Smarter Everyday: Smarter Everyday is a channel that focuses on exploring the wonders of science through experiments, slow-motion footage, and interviews with experts.
9. BBC Earth Lab: BBC Earth Lab provides fascinating videos on various scientific subjects, including animals, nature, and the environment, offering insights into the natural world.

These channels offer a wealth of knowledge and entertainment, making science education accessible and enjoyable for viewers of all ages.

References: [1] [Best Science YouTube Channels](#) [2] [Top 10 YouTube Channels About Science](#) [3] [Top 20 fascinating YouTube channels for science junkies](#)

MOOCs:

<https://www.udemy.com/courses/teaching-and-academics/science/>

ONLINE SEMINARS/LECTURES:

<https://academicearth.org/science/>

SOCIAL MEDIA ACCOUNTS:

<https://www.wired.co.uk/article/the-best-scientists-to-follow-on-instagram-and-twitter>

<https://www.reagent.co.uk/blog/science-instagram-accounts/>

PLACES TO VISIT:

Eureka! Science and Discovery - Woodside Ferry - <https://www.eurekadiscovery.org.uk/>

Chester Zoo - <https://www.chesterzoo.org/>

Jodrell Bank observatory - <https://www.jodrellbank.net/>

World Museum, Liverpool - <https://www.liverpoolmuseums.org.uk/world-museum>

Science and Industry Museum, Manchester
<https://www.scienceandindustrymuseum.org.uk/>

CHALLENGES AND COMPETITIONS:

<https://www.stem.org.uk/secondary/enrichment/competitions>

<https://edu.rsc.org/feature/science-competitions-your-students-can-enter-this-year/4012442.article#:~:text=Closes%3A%2030%20March%202023,in%20the%20field%20of%20STEM.>

<https://www.schoolscience.co.uk/competitions>