

A NOTE FROM ACTUA:

The following document is intended for families, educators, and others who may be looking for educational content for kids (K-12) while many organizations are closed due to COVID-19 precautions. Actua is doing our best to curate high-quality resources and recommendations, but please note that we are not specifically endorsing any product or organization.

If there are any questions about this document, if you need support with educational resources, or if you have suggestions for additions, please email teachers@actua.ca.

Virtual STEM Resources

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Virtual camps & courses, e-learning

[AI4ALL Open Learning](#) - platform for high school students to learn fundamentals of AI, does not require any computer science background, 30+ hours of curriculum.

[Camp Wishplay](#) - virtual camp starting March 16.

[Code.org](#) - Coding lessons and activities, free access, can store progress if you create an account.

[DataCamp](#) - data science course-based learning online, best suited for older (teenage) audience.

[Elements of AI](#) - online course to learn basics of AI, does not require any coding knowledge or experience. Best suited for older (teenage) audience.

[FAME](#) - online school/courses to support students in art and technology, offering free 90 days to access 150+ courses.

[History for Kids](#) - for Social studies/history content - games, activities, quizzes, worksheets, and other online learning for students.

[Idea Maker Course](#) - free until June 15 - self-paced course with videos, worksheets, and other resources to teach youth entrepreneurship.

[Khan Academy](#) - Math and Science short lessons and modules (free with free account creation).

[Nearpod Lesson Bank](#) - K-12 lessons across all subjects.

[Participate: Learning/Surviving @ Home with Kids](#) - online community for sharing resources, tours, interactive lesson ideas, etc. organized by grade.

[Scholastic Learn at Home](#) - Daily updates; starting Pre-K to Grade 6+. Each day offers four separate learning experiences with video/story and activities to extend understanding. Free.

[Starfall](#) - For Grades K-3. There are a number of sections that are free but certain modules require premium access.

[Typing Club](#) - 600+ lessons to guide students through learning how to type on a keyboard- includes instructional videos, games, cross-curricular content suitable for ELA studies.

Activities to do at home (hands-on, unplugged)

[12 Weeks of STEM Activities for at-home](#) - Prompts for Monday-Friday for 12 weeks of exploration of STEM concepts, using a combination of tech (apps/sites) and unplugged approaches for learning.

[Actua's Activities](#) - range of hands-on activities for STEM, coding & digital skills.

[CBC Canada 47 Indoor Activities for Kids](#) - curated list from 2016 of various indoor activities for children ranging from online activities to crafts with found objects to family games.

[Fold 'N Fly](#) - Fold 'N Fly is a collection of guides on how to make various types of paper airplanes. This opens the door to testing which ones work better and why they work better, i.e. drag, weight distribution, and wing span, etc.

[Home With Kids, Now What?](#) - project ideas curated from the Internet, based on what material(s) you have on hand - including cardboard, balloons, LEGO, plastic bags, and more.

[Instructables](#) - combination of tech-based and construction activities that use maker approaches to encourage prototyping and experimentation.

[Interdisciplinary STEAM Activities at Home](#) - compiled by Dr. Torrey Trust, contains suggestions (with links to instructions/resources) across STEM that align to curriculum in language, social studies, math, science, physical education, art, tech, music/dance - plus links to resources for reading, 200+ digital tools, online learning.

[MakeDo](#) - A MakeDo kit includes two tools and plastic screws, all you need is cardboard and it allows the user to create structures as if they were using wood and workshop tools!

[Mystery Science](#) - mini-lessons (15-30 min online) and full lessons (45-90 minutes, hands-on with online/unplugged) suitable for K-5 students exploring science. Organized by grade.

[National Geographic Science Lab](#) - activities that can be completed at home, with accompanying video tutorials - e.g., waterproof clothes, squishy eggs, floating penny.

[Science World Teaching Resources](#) - lesson plans based on curriculum, filter by type, topic, grade, and language. Covers preschool up to Grade 12, most can be done with materials already in the house.

Online games & interactives

[Actua's AI Activities](#) - a mix of online interactives and background info for youth and educators exploring artificial intelligence online.

[Calculation Nation](#) - Challenge yourself or play against others in these fun games that rely and reinforce mathematical principles for any age.

[Codingville.ca](#) - free online platform to learn coding (both block and text-based coding)

[How Stuff Works](#) - This website hosts articles and videos aimed at a older audience (14-18) examining how different things work, similarly to "Myth Busters" but more practical and less theoretical.

[Interland \(Google's Be Internet Awesome\)](#) - for youth to learn about digital citizenship and online safety in a fun, interactive environment.

[Kodable](#) - fundamentals for coding instruction, ages 4-10.

[March Mammal Madness](#) - animals vs animals in this bracket! Kids can make predictions about what animal will triumph (print off the PDF) and learn about different species.

[Math Blaster](#) - An online collection of math games for students in K-6.

[Media Smarts Games](#) - cyber safety, digital citizenship, and online awareness for youth through online games. Filter by topic of interest.

[MIT Education Arcade](#) - links to various online interactives, including background info for parents/educators to explore learning.

[NASA Kids Club](#) - NASA Kids Club is an online hub of educational videos and articles about the ISS, space travel, and the science behind it. An archive of apps relating to NASA or their work can also be found on this site.

[Nasa Visualiser](#) - This app lets youth explore earth and the entire solar system through the eyes of their fleet of research spacecraft.

[National Geographic Kids](#) - games, videos, reading, etc. - also has links to science lab experiments that can be completed at home.

[Ocean Alive! Playlist](#) - from Ocean Networks Canada, videos and other online learning about ocean conservation.

[Prodigy](#) - online math platform for Grades 1-8.

[Scratch](#) - Free block coding software, the desktop app comes with a number of free lessons to get people started with block coding, complete with pictures!

[Squiggle Park](#) - free, reading skill building for ages 3-8+ and reading comprehension for ages 8-15; builds student literacy through game play. Also app option.

[Storyline Online](#) - audio books and stories for kids, good for ELA early years (also an app option).

[Tynker](#) - coding challenges, tutorials, and online platforms for kids learning to code.

[Wonderville.org](#) - online games, videos, puzzles with curriculum-aligned STEM content (note: currently requires subscription)

Educational apps (smartphone or tablet-based)

[Khan Kids](#) - App for Ages 2-7 (Basic arithmetic and Emotional Learning)

[My Molecularium](#) - Aimed at high school students, the goal of the game is to successfully assemble different molecules, in a fun game like atmosphere.

[Professor Astro Cat's Solar System](#) - This app walks viewers (6-12) through the creation and make up of the universe through a fun, engaging, and entertaining storyline.

[Pyonkee](#) - Similar to Scratch, block-based coding environment to learn coding.

[SAT Prep by Ready4](#) - App for ages 14 - 18 (review and practice for math and language concepts relating to the SAT testing)

[ScratchJr](#) - basic block coding app, great for younger kids (K-3)

[SoloLearn](#) - This app is a collection of tutorials and demos on how to code in a number of coding languages for beginners or pros.

[WWF Together](#) - Put together by the World Wildlife Foundation this app features a collection of lessons on many animals from across the globe.

Educational Podcasts & Videos

[360 Science](#) - 360 Science is a hub of educational videos that takes advantage of AR and VR to place the user in the setting. Many videos explore the processes of nature, and how we affect it.

[Bill Nye](#) - Bill Nye's website includes a complete archive of episodes from Bill Nye the Science Guy, and Bill Nye Saves the World. It also features demos and tutorials on how to recreate some of his experiments at home.

[Half as Interesting](#): Slightly different than Wendover productions, Half as Interesting uses comedy to look at and examine the underlying factors and concepts in many global events and breakthroughs. Recommended age range, grade 6 and up.

[Mystery Doug](#) - in addition to quick video content to spark curiosity (focus on science content), also includes K-5 science lessons that can be done at home for free.

[NOVA](#) - NOVA is a weekly STEM show that has been airing for over two decades, on their site you can find an archive of many of their episodes.

[TED Talks Daily](#) - Lots of great talks on a variety of topics, appropriate for an older audience (high-school)

[The 25 Best Podcasts for Kids](#): recommendations for stories, science experiments, kid-friendly news, and more.

[The B1M](#) - This YouTube channel is dedicated to looking at some of the world's most innovative and bizarre construction projects. Videos include examining mega projects, how they are built and what impact they have among many other construction and architecture related topics.

[Wendover Productions](#) - This YouTube channel uses comedy and animation to educate viewers on a wide range of topics. Ranging from Health, Architecture, Politics, Economics, or science nearly any topic can be found. This resource is aimed at high school level youth due to the complexity of the subject matter.

Emotional Support Resources

[Calm](#) - app to support with sleep, stress, and mental health.

[Emotional & Logistics Check-In](#) - Google Form that can be used for camps, workshops, courses, etc. (online or hybrid) - to check in with all participants on emotions and tech access.

[GoNoodle Kids](#) - for physical and mental health, app-based as well as online, best for elementary students. Includes yoga, mindfulness, and exercise with fun videos.

[Headspace](#) - both online and app-based resource for meditation and mindfulness practice.

[Kids Help Phone - COVID-19](#) - links and trustworthy information for youth that may be struggling during coronavirus, including online chat, text, and other counselling available for free 24/7.

[Peak Resilience: Complete Mental Health Guide](#) - strategies and resources for coping and building resiliency, particularly during COVID-19.

Resources for Teachers/Educators moving online

[11 Things to consider when moving your course online](#) - published by Connecticut College, provides advice and support for learning online and embedded links for additional ideas and resources.

[Digital Age Learning](#) - includes links to platforms for online delivery and teaching best practices.

[Google's Digital Safety Resources](#) - useful for families/others bringing youth online - discusses digital citizenship, online safety, protocols for Internet usage, etc.

[Ingenium's Online Educational Resources](#) - includes videos & lesson plans on a variety of STEM topics from agriculture to space suits!

[ISTE STEM](#) - Developed by the STEM professional learning network of ISTE - also useful for families learning at home. Hub for sharing info, resources, activities, webinars, and more.

[Learning Keeps Going](#) - developed by ISTE, a hub for resources, curated tools/content, webinars, and other support for educators during COVID-19. Regularly updated.

[Media Smarts](#) - resources, lessons, reading, etc. for digital citizenship and online safety.

[Navigating Uncertain Times: How Schools Can Cope with Coronavirus](#) - Free guide from ISTE/EdSurge with resources, strategies, and suggestions for educators. Regularly updated.

[Online Learning Guidelines](#) - Google folders - international content, ranging from overall coronavirus to specific districts, international schools (including IB), and distance learning plans as well as how to conduct flipped learning in a virtual learning environment.

[Online Lecture Toolkit](#) - free support for visual storytelling, designing for learning, making accessible videos, etc.

[Resources for Teaching Online due to School Closures](#) - has suggestions for at-home activities, asynchronous and synchronous delivery, checklists, etc.

[Teaching Remotely in Times of Need](#) - presentation to support with adapting to online learning and meeting student needs with technology, including UDL overview.

Other education-related compilation lists

[Crowdsourced Virtual Learning Offers](#) - listing online offers for various educational platforms with details about resources available.

[Extended Closure Digital Learning Plan Brainstorm](#) - resources for teachers, free programs, planning docs, and other supports with hyperlinks.

[Free online subscriptions](#) - List of Education Companies Offering Free Subscriptions due to School closings.

[Free online tools](#) - List of free tools for schools dealing with the coronavirus.

[Online Toolkit](#) - resources, links, and curated info site for educators.

[Teaching in the Context of COVID-19](#) - compiled document for online teaching, open source tools, resources, assignments/activities, and more.

[Wakelet: Online Learning](#) - curated list of ideas, infographics, and other info (including Tweeted compilation lists) during COVID-19.

Hashtags to follow online

#CovidCampus

#EdTech

#FreeBookResources

#HomeSchool

#OnlineLearning

#RemoteLearning

#RemoteTeaching

#STEMed

#TeacherEdChat

#VirtualLearning

#VirtualTeaching