



RESOURCES FOR TEACHERS

Science

- **Archived Web Seminar from National Science Teaching Association – Science Update: COVID-19: Don’t Panic but Know the Science, March 25, 2020** – The webinar is approximately 90 minutes and is free. <https://common.nsta.org/resource/?id=10.2505/9/WSNSTA200325>
- **Supporting Students’ Science Learning During COVID-19 School Closures:** https://drive.google.com/file/d/1xsCFFsDk_g1B4TIDgWck_WOGOp8daqUN/view
- **Virtual SCI-ED “Leveraging Student Questions About the Coronavirus”** <https://www.ngssphenomena.com/ourvoice/2020/3/23/phenomenasparkscoronavirus/>
- **CPALMS** – CPALMS is Florida’s one-stop shop for “all things” standards. The science instructional plans and resources are vetted and of high-quality. <https://www.cpalms.org/Public/>
- **CPALMS Perspectives Videos** – The videos are short and share experiences and thoughts about math and science from a variety of perspectives – experts, teachers and others. There are over 200 topics, and each has a short description, grade level, and intended audience. <https://www.cpalms.org/Public/ResourceCollection/Preview/302>
- **National High Magnetic Field Laboratory** – The MagLab has a variety of resources to support teachers including classroom kits. They also have an “Educators Club” where teachers get information about workshops and MagLab news and events. <https://nationalmaglab.org/education/teachers>
- **National High Magnetic Field Laboratory – Magnet Academy** – This resource is for students, teachers and anyone who is curious. It features demonstrations, videos, activities and more, all designed to make learning about magnets engaging! <https://nationalmaglab.org/education/magnet-academy>
- **University of Florida Center for Precollegiate Education and Training Lesson Plans and Curricula** – A series of multi-day thematic lessons. <https://www.cpet.ufl.edu/teachers/lesson-plans-and-curricula/>
- **University of Florida Sea Grant Resources** – This website has a variety of resources including curricula about manatees, right whales, sea turtles, teaching aquaculture, and information about Hazard Analysis and Critical control Points for the seafood industry. To date, there are over 31 million media records available. <http://www.flseagrant.org/education/>
- **University of Florida IFAS Online Agricultural Education Resources** – A collection of resources to help agricultural education teachers teach agriculture in an online environment. <https://aec.ifas.ufl.edu/resources/ag-teachers/>
- **University of Florida Streaming Science** – Multimedia resources are used to interview scientists and share information on STEM careers and research -- all produced by UF students! <https://streamingscience.com/>
- **iDigBio** - (Integrated Digitized Biocollections) is a project of the National Resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by the National Science Foundation to UF and FSU. It provides data and images for millions of biological specimens that are available in electronic format for the research community, government agencies, students, educators, and the general public. <https://www.idigbio.org/>
- **PhET Interactive Simulations** – PhET Simulations, provided by the University of Colorado Boulder offer free simulations in the areas of physics, chemistry, math, earth science, and biology. As of the date of resource publication there are 158 interactive simulations, 93 language translations and 2148 teacher-submitted lessons.



<https://phet.colorado.edu/>

- **Smithsonian Tween Tribune** – Are you looking for a way to add relevance to your STEM instruction? This site boasts a series of STEM-related articles that are organized by grade band and appropriate for K-12 students. Teachers may select from among four Lexile levels and there are teacher resources to accompany each article. Additionally, there is a special “tech” section and articles are available in Spanish. The site also has lesson plans, Smithsonian Museum videos and more.
<https://www.tweentribune.com/>
- **STEM Teaching Tools Newsletter: Field Notes** – This is a listing of STEM Teaching Tools newsletters. Each issue, written by researchers and educators, addresses topics pertinent to all STEM teachers.
<http://stemteachingtools.org/newsletter>
- **“How Can Families Support Student Science Learning at Home?”** This article, “shareable by teachers” is focused on families, is made available by STEM Tools and members of the Council of State Science Supervisors. It is in the Creative Commons. https://docs.google.com/presentation/d/1iISzQnxPC8XKe8_xQkwsovQH_mog-Jluif_Y9Ewu-4k/edit#slide=id.g81a57f9574_0_1
- **“How Can You Continue Science Learning at Home?”** This article, “shareable by teachers” is for students and offers recommendations for things students might do to continue to learn science at home. It is made available by STEM Tools and members of the Council of State Science Supervisors and is in the Creative Commons.
<https://drive.google.com/file/d/1sy6uVcn73G36rDCI5kWY5w-zYN2p3A3F/view>
- **“Learning Menu Strategy”** Teachers might share this with families or develop a similar “at home” learning menu of their own to share. The menu provides ideas for students at all grade bands and gives families and schools examples of low or no technology activities to support science learning at home.
- <https://drive.google.com/file/d/1-lcyQKvPXmp-lj9vt8qDdbqhx0NvDho/view>
- **University of Nottingham - The Periodic Table of Videos** - Short videos about every element on the periodic table, experiments and other useful information for physical science teachers. These are most appropriate for middle and high schoolers but might also be used in elementary classrooms.
<http://www.periodicvideos.com/>
“The Prof’s” Top 10 videos playlist
https://www.youtube.com/playlist?list=PL9eEsN9D48me_DKCJsfgmglPKVJoacciU
- **The Biology Corner** - Biology resources such as lesson plans, worksheets, tutorials and other resources organized by biology content area. Appropriate for middle and high schoolers.
<https://www.biologycorner.com/2019/06/30/storylab-diffusion/>
- **Bozeman Science** – This website has hundreds of science videos organized by subject including biology, anatomy and physiology, chemistry, physics, earth science, statistics and more. The content is sound and is presented in a conversational style, address academic vocabulary and would be excellent resources to support online content.
<http://www.bozemanscience.com/elements-of-a-feedback-loop>
- **NOVA Labs** – A digital platform where “citizen scientists” may take part in timely and interactive real-world investigations. All the labs correspond with key science concepts, include engaging videos and may be used to add relevance for students. Nova Collections in the areas of physical sciences, life sciences, earth and space sciences, engineering, technology, and applications of science, mathematical science, social and behavioral sciences are also available at the URL below. These resources are appropriate for middle and high schoolers.
<https://gpb.pbslearningmedia.org/collection/nova-labs/>
- **NOVA Next** – An award-winning digital publication that explores “ideas that are changing the future.” The articles and support materials, useful in making science relevant, may be downloaded for classroom use and are especially appropriate for high schoolers. <https://gpb.pbslearningmedia.org/collection/nova-collection-web-originals-nova-next/>



- **ChemCollective** – Online resources, organized by topic, are designed to help educators teach chemistry. Resources include auto graded virtual labs, scenario-based activities, tutorials, auto graded problems, simulations and concept tests. They are especially helpful for teachers moving to online and are free to institutions impacted by Covid-19. <http://chemcollective.org/stoichiometry>
- **American Association of Chemistry Teachers** – Resources, some of which are not normally available are now available free to teachers who are moving to online instruction. Resources include activities, videos, lesson plans, demonstrations, simulations and include resources for all grade levels. Additionally, there are webinars for teachers. <https://teachchemistry.org/>
Of special interest to parents and students are at home activities for K-8 students - <https://teachchemistry.org/news/at-home-activities-for-k-8-students>
- **Molecular Workbench** – Simulations and embedded assessments for teaching science. These are supported by the National Science Foundation. Users need Java Version 5 or higher. <http://mw.concord.org/modeler/>
- **Chem Matters** – This is a digital magazine designed to help chemistry students make connections to chemistry and the world around them. Each edition has a teacher’s guide and it is also available in Spanish. The webpage also contains safety resources, puzzles, emergency lesson plans and archived issues. <https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters.html>
Chem Matters Articles in Spanish - <https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters/chemmatters-articles-in-spanish.html>
- **American Chemical Society** – Middle School Chemistry - <https://www.middleschoolchemistry.com/>
- **Next Generation Science Standards** – Although the standards differ somewhat from Florida’s NGSSS-Science, the lessons and units are high-quality, identified by grade and content, and vetted. <https://www.nextgenscience.org/resources/examples-quality-ngss-design>
- **STEM Teaching Tool: Practice Briefs** – These are short **practice briefs**, focused on specific issues pertinent to STEM teachers. Although they reference the *Next Generation Science Standards*, the content is pertinent to all STEM educators. They are also available in Spanish. <http://stemteachingtools.org/tools>
- **STEM Teaching Tools: Open Source Professional Development Session Resources** – The site includes PD session resources and playlists, complete with questions for discussion, which are related to the topics. <http://stemteachingtools.org/pd>
- **“How Can Families Support Student Science Learning at Home?”** This article, focused on families, is made available by STEM Tools and members of the Council of State Science Supervisors. It is in the Creative Commons. https://docs.google.com/presentation/d/1iISzQnxPC8XKe8_xQkwsQvQH_mog-Jlujf_Y9Ewu-4k/edit#slide=id.g81a57f9574_0_1
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- **Virtual SCI-ED “Science is For Everyone – Go Out and Find it.... Safely!!”** <https://www.ngssphenomena.com/ourvoice/2020/3/19/scienceisforeveryone>



- **Virtual SCI-ED “How Science Notebooking Can Support Meaningful (and accessible) Science Learning”**
<https://www.ngssphenomena.com/ourvoice/2020/3/20/sciencenotebooking/>
- **Virtual SCI-ED “Good Selfies – Is That a Science Thing?!? Why does the Light Always Ruin my Photos?!?”**
<https://www.ngssphenomena.com/ourvoice/2020/3/27/virtualscienceeducationselfiesandlight/>
- **Virtual SCI-ED “Does Our Perception Play a Role in Communication?”** This article is designed to support student argument and evaluate “real versus fake.”
<https://www.ngssphenomena.com/ourvoice/2020/3/19/virtualscienceeducationrealorfake>
- **Virtual SCI-ED “Using an Everyday Phenomenon to Develop New Investigations”**
This article focuses on elementary resources to support younger children as they “do” science at home.
<https://www.ngssphenomena.com/ourvoice/2020/3/19/virtualscienceeducationh2ohmygoodness>
- **Virtual SCI-ED “How Can Structure and Function Help Us Make Sense?”** This resource focuses on middle school resources that can be used to support science learning at home.
<https://www.ngssphenomena.com/ourvoice/2020/3/19/virtualscienceeducationaweirdlookingbeehive>

