Distance and Virtual Learning for the Science Community

Foreword:

As we grapple with the public health measures needed to be in place to limit the spread of COVID-19, we're faced with how to support the diverse needs of all learners when students are not in school. Districts and educators should consider:

- *Unequal access to technology;*
- *Diverse affective/emotional responses to home lives and the pandemic;*
- *Responsibilities learners hold as part of their homes and communities;*
- *Access to safe and supportive learning spaces; and*
- *Access to peers and/or adults to support learning and sense-making.*

The following resources and solutions should not be considered as "school as usual," simply delivered in a virtual environment. Instead, they are compiled resources and curricula that can help support student science learning and your own professional development during these unique circumstances.

Know that it's time to take a deep breath, roll up our sleeves, and enter these uncharted waters with a growth mindset. No one expects us all to execute with precision, so just do the best you can and reflect on how to do it better each day. Look out and reach out for one another through collaboration and compassion as we embrace this challenge.

For District Leaders (Considerations):

Instruction Partners Resource https://instructionpartners.org/resources/coronavirus-planning-2

Council for State Science Supervisors - Distance Learning Best Practice and Considerations for Lesson Planning Strategies:

Guidance for Supporting Science Learning During COVID-19

Guidance for Families During COVID-19 School Closures

Guidance for Students During COVID-19 School Closures

Teacher Implementation Strategies: (Identify tools to help you teach virtually)

Microsoft Teams and **Google Classroom** allow teachers to communicate, share resources, create assignments, and provide feedback to students. **Learn how to get started with Google Classroom** or use **Microsoft Education Resources**.

Prepare for online learning. Watch a 35-minute webinar in which three teachers describe how they have **prepared for online teaching**.

Virtual Lesson Planning Template for the 5E model:

https://catlintucker.com/2020/03/designing-an-online-lesson/

Resource Lists: Below are extensive lists of free digital curriculum, simulation, articles, and more to supplement you district resources.

RIDE:

- The RIDE Team has created a Distance Learning Resource Spreadsheet by topic that will be updated regularly
- COVID-19 and Online Learning: Our community of preK-12 education researchers offer the following activities (online curriculum, modules, and/or simulations), tools (apps and general resources), as well as tips to support remote student learning or teacher professional development.
- Amazing Educational Resources is a website with a list of education companies offering free subscriptions due to school closings
- Microsoft is offering six months of Office 365 tools for free to schools to enable remote collaboration, file sharing and video conferencing
- NBC Learn is available for free to Rhode Island educators and schools
- National List**:** Education Companies Offering Free Subscriptions due to School Closings (Updated): Amazing Educational Resources
- EBEC List: Annotated compilation of resources available for STEM subjects.
- Additional List by VT: Collaborative list created by teachers and annotated by grade level.
- RIMOSA
- Hands-on, open-ended STEAM activity each day we are closed to the public. We're on day (and activity) 5 now. Please check us out at www.rimosa.or

Professional Learning and Resources:

Online Teaching Resources Compiled by the National Science Teaching Association.

Teaching about COVID –19 and viruses NSTA lesson plans on the coronavirus:

for secondary students

for elementary students

Additional Curriculum Resources for Free:

Scholastic: Write **www.scholastic.com/learnathome**

Last week, as part of The White House Office of Science and Technology Policy's COVID-19 technology initiative, American technology companies were called on to make online learning resources more accessible for teachers, parents, and students as more Americans are encouraged to stay home amid the COVID-19 outbreak.

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Today, the technology industry rose to the occasion with the launch of **TechforLearners.org,** a new resource for educators, administrators, and public officials who are turning to online learning as coronavirus response disrupts the school year.

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TechforLearners.org is a searchable online database of education technology tools that facilitate online classrooms and teaching, allowing educators to search for free and discounted tools and services by grade level, product type, and subject matter. The site, coordinated by the Software & Information Industry Association (SIIA), will be continually updated and will soon include additional resources geared towards parents and students.

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Going 3D with GRC 340 K-12, lessons aligned to the NGSS at the **Going 3D with GRC lesson** website

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NBCLearn

Videos, resources from NBC files. Free to RI educators:
https://archives.nbclearn.com — Click sign in, choose institutional login, enter 'Rhode Island Department of Education', and log in with your RIDEMap credentials.

tinyurl.com/ridenbc—Support resources for RIDE

curriculum@nbcuni.com —Email the Curriculum Team for help finding videos on a particular topic or for technology support.

Tuva Premium

Access to entire Content Library of 1000+ datasets, activities, data stories, and tasks — for FREE for all teachers for the remainder of the current school year.
In order to get setup on Tuva Premium contact support@tuvalabs.com

Webinars to use Tuva for Math & Science Instruction in Remote Learning -Over the coming week, we will host webinars to help math and science teachers integrate and use the Tuva datasets, instructional materials, and our data and graphing tools as part of your plan for remote learning. **Please stay tuned for announcements regarding the date and time of the webinars.**

New Instructional Materials- We will also be creating and making available new data stories, activities, tasks, and self-guided lessons over the coming weeks that you will be able to use to support math and science instruction. **Again, please stay tuned for these announcements regarding these new materials.**

Share this message with other teachers at your school and district
Get Started with Tuva Premium tutorials:

- Tuva Quickstart Guide for Earth Science
- Tuva Quickstart Guide for Life Science
- Tuva Quickstart Guide for Physical Science
- Tuva Quickstart Guide for Algebra I
- Tuva Quickstart Guide for Algebra II
- Tuva Quickstart Guide for AP Statistics

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OpenSciEd

OpenSciEd makes extensive use of simulations that allow students to explore scientific concepts. By adjusting the parameters and conditions of the illustrative models, students can make conjectures and test their assumptions about science. The simulations are freely available and can be used independently from our units. Visit our OpenSciEd Simulation Library to access the simulations.

OpenSciEd's instructional model relies on five routines: Anchoring Phenomenon, Navigation, Investigation, Putting Pieces Together, and Problematizing that are described in great depth in our Teacher Handbook. Though these routines were designed for classroom learning, they could be adapted to serve students well in asynchronous and remote learning environments.

If you choose to explore using these tools in online instruction, we encourage you to collaborate by sharing strategies and adapted materials with other teachers. The following are channels by which you can work with peers making similar adaptations:

- Via Twitter using the hashtags #OpenSciEd #Remote
- Via a Google Folder

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Twig Science

Access the grade level packets that have been made to assist with low tech distance learning as well as online resources for K-5 and 6-12.

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Great Minds PhD Science

Every day on this site, we'll offer newly recorded lessons—free to anyone—from Eureka Math (for Grades K–12), our English language arts curriculum Wit & Wisdom® (K–8), and PhD Science™ (3–5). Customized by grade and module, these consistent and coherent video lessons, delivered by our experienced teachers, will be viewable on any device. *Eureka Math*/EngageNY Math curriculum is a free, open education resource available to anyone, anywhere. Please go to greatminds.org/math

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HMH

As schools around the world continue to monitor the novel coronavirus disease (COVID-19) situation, the safety and continued learning of our HMH community remain our top priorities. To help you teach and your students learn and grow without interruption, see the new web page with up-to-date support and resources.