SDUHSD Science Newsletter
March 2020
Amy Olson (District Science Coordinator)
Jennifer McCluan (Instructional Specialist for Science and Health)

Amy and Jenn will be using these updates as a communication tool each month. The newsletter archive is hosted here. Please e-mail jennifer.mccluan@sduhsd.net should you notice any colleagues not receiving it.

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Professional Development 2019-2020

Distance Learning Support
In addition to resources that your site principals have been sharing, please also consult the new SDUHSD Distance Learning website created by Amy Springstead and Jenn McCluan. Science-specific distance learning resources are hosted here. Additionally, Jenn McCluan is available for virtual office hours; click here and scroll to a date/time that works for you to schedule an appointment. You are welcome to email Jenn questions, and she is happy to set up a separate time if her office hours don't work for your schedule.

SDCOE Distance Learning Resources
SDCOE content coordinators have developed a list of resources specific to subject matter to support distance learning.

Middle School Health Committee
Our Middle School Health Committee continues its work to develop resources to support comprehensive sexual health education in our 7th grade science classes. Our subcommittee of teachers from each middle school (Krista Baldwin-EW, Kathryn Freeman and Lindsey McVay-PT, Tania Kim-CV, Tracy McCabe-OC, Jenn McCluan-DO, and Erika Pavlovich-DNO) continues to meet virtually, and is in the process of completing the unit overview tables and slide decks shared in our February PD. The goal is to complete these by April 13th, and to then shift the work focus to adapting for an online platform if needed. We will continue to inform teachers as additional details are finalized.

NGSS Updates and Resources

NSTA Free Resources
NSTA is offering a free 30-day NSTA membership during the CVOD-19 pandemic.

NASA At Home Resources
NASA has created this website to support at-home science learning during the COVID-19 pandemic.

HHMI Biointeractives Updates

HHMI has made resources available for supporting distance learning about the coronavirus and the COVID-19 pandemic. Excerpt: "In coming weeks, your students will likely have questions about viruses: what they are, how they spread, how disease researchers trace and combat epidemics. This newsletter highlights our infectious disease resources featuring scientists on the front lines of combatting viral epidemics, including Zika, Ebola, and Nipah. Our collection of resources can be found here."

Next Gen Navigator
This monthly newsletter highlights hte curricular resources developed by Next Gen Storylines, as well as recommending individual NGSS lessons for each grade level/discipline.

Exploratorium Tools for Teaching and Learning
At the Exploratorium, designing tools for teaching and learning is something we do every day—almost all of our exhibits are created and tested here at the museum. The digital tools we create for teaching and learning allow us to push beyond our museum walls and connect with learners and educators everywhere.

Salk Institute Teacher Resources during COVID-19
Salk Education Outreach understands the challenges of finding and/or creating lessons, activities, and other resources to support distance learning. Please see the resources linked below and check back often for updates! Stay safe, stay well!

Middle School Science

Public Review of Science Instructional Materials
After consulting with Bryan Marcus, we still plan to move forward with our public review of science instructional materials. To support this online review in a virtual space, Amy Olson and Jenn McCluan have created this website with input from middle school science department chairs. We plan to open this public review April 13-17 for public comment. The following was shared with middle school principals, who will be passing it along to their school communities:

"SDUHSD is considering instructional materials from three publishers to align with California's newly adopted Next Generation Science Standards (NGSS). This year, middle school science departments are piloting the three programs being considered for adoption in both 7th and 8th grades, and will recommend one or more of these programs for adoption beginning with the 2020-2021 school year. Due to the COVID-19 pandemic and the closure of our school campuses, this public review will be held virtually from April 13-17. We appreciate your involvement in this process, and invite you to visit our Public Review website during April 13-17 to explore the materials and provide feedback and ask questions."

NSTA Middle School
To help as we all face the challenges of these unique times, NSTA has created our #LearningTogether initiative, put together a Daily Do for teachers, opened up our interactive e-books for free, is offering a free month of NSTA membership, and more. Middle school teachers, we have what you need for teaching science the way you need to teach it now. Check it all out here!

Next Generation Science Assessment Task Portal
Concord Consortium has created NGSS-aligned performance tasks and hosted them here.

HHMI Biointeractive News
HHMI has updated their Biointeractives with additional resources for use in science classrooms.

High School Science

NSTA High School

To help as we all face the challenges of these unique times, NSTA has created our #LearningTogether initiative, put together a Daily Do for teachers, opened up our interactive e-books for free, is offering a free month of NSTA membership, and more. High school teachers, we have what you need for teaching science the way you need to teach it now. Check it all out here!

HHMI Biointeractive News

HHMI has updated their Biointeractives with additional resources for use in science classrooms.

Coronavirus Meets Physics

As science teachers, particularly those working to make learning relevant to student experiences, engaging them in phenomena that have meaning in their own lives enables them to contextualize the learning: What better way to drive student interest than by drawing from current news headlines? Read how high school teacher Stephanie Duke enacted the NSTA lesson plan focused on the coronavirus and helped her students become better critical consumers of information.

Social Distancing in the Midst of COVID-19

This directed case study is intended to give students insight into why social distancing is used to minimize the spread of infectious diseases. Students are provided with data from the state of Washington to determine whether there is a trend in transmission rates of COVID-19 in large populations and if population density is a driving force in disease spread. Students analyze population data, number of cases, and population density of ten counties. They also view the timeline of social distancing measures announced in the state, determine when the social distancing recommendation began, and observe how quickly the number of cases escalated. Students then compare Washington state data with New York state data to see how much quicker COVID-19 cases escalated in New York and how much faster social distancing measures were put into place. Students then turn their attention to Colorado to observe the exponential growth trend witnessed there. This case was designed for high school biology and AP biology students but could also be used in other courses that require students to analyze data. The case uses data as of March 2020, but could easily be updated with new data as the situation continues to develop.

Outbreak! The Diagnosis and Transmission of SARS and MERS Coronaviruses

This case study uses a PowerPoint presentation to guide students through two activities designed to teach them about the basics of coronavirus diagnosis and transmission. The first activity involves a set of five “clicker questions” that students answer using either a personal response system, online polling application, or show of hands as they consider symptoms and test results of a hypothetical patient. The second activity is an outbreak simulation in which students consider the spread of a pathogen in various geographical settings and from different perspectives. Students work together to draft a list of precautions that could be taken to limit the spread of the disease and minimize healthy individuals’ risk of contracting it. The simulation is designed for a biology lesson pertaining to outbreaks. Although coronavirus is used as the model, the concepts of disease transmission and prevention covered in this case are relevant to many diseases.

Education in Chemistry

In this monthly publication, the following topics are featured:

- Demonstrate the density and extinguishing properties of CO2 safely
- Unlock the secrets of kitchen chemistry and improve students’ data skills
- Teach students about smart materials with this insulation investigation

They have also created this mid-month newsletter with suggestions for distance learning.

Learning Opportunities (Students)

None at this time

Learning Opportunities (Teachers)

San Diego STEM Ecosystem
San Diego STEM Ecosystem is a great resource to see all of the STEM-related events and learning opportunities taking place in San Diego County. Sign up for their monthly newsletter (scroll to the bottom of their main page) to receive emails each month highlighting high quality STEM events.

HHMI Ambassador Community
HHMI BioInteractive is inviting educators to participate in a 3-year professional development Academy that will grow the Ambassador community. We welcome educators from all identity groups and educational contexts to apply. Up to 30 educators will be selected to work with BioInteractive to spread inclusive and equitable science teaching practices that incorporate our classroom resources, approach, and values. Members of this cohort will participate in a research-based professional development pathway focused on building professional learning leadership capacity. The Academy will include workshops, coaching, professional networking, and opportunities to participate in and present at science education conferences.Upon completion of the 3-year Academy, cohort members will join the HHMI BioInteractive Ambassador community and help to design and facilitate BioInteractive professional learning experiences for other educators, serve as program advisors, and contribute to BioInteractive content as developers, reviewers, and field testers. Ambassadors remain members of this community as long as they stay in science education. Click the link above for deadline dates and time commitments.