



## Los Angeles County Office of Education

Serving Students ▪ Supporting Communities  
Leading Educators

### STEM Unit Announcements and Updates:

Your link to Local, State, and National Information for Science, STEM and Mathematics



## LACOE's STEM Notes

June, 2019



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Please note that content is not necessarily endorsed by LACOE.

This is also not a complete or exhaustive list.

LACOE STEM is now on Facebook (LIKE US)!

<https://www.facebook.com/lacoe.stem>

OR

Follow STEM on Twitter @LacoeQuan



Newly added/updated events will be marked: **EVENTNAME**

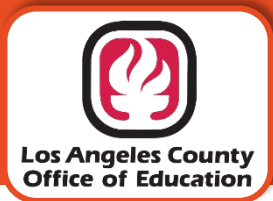
# Highlights

CHECK OUT THE NEW LACOE STEM UNIT  
2019-2020 CATALOG OF SERVICES AND WORKSHOPS!

<http://bit.ly/2ZpsTsL>

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- To master rigorous science, technology, engineering, and mathematics content standards.
- To integrate Science, Technology, Engineering, and Mathematics across all content standards.
- Collaborate to interpret and communicate content information.
- To engage in inquiry and/or logical reasoning to identify and solve problems.
- To utilize technology effectively to enhance learning.



# LACOE STEM Workshops

## Math Workshops

### LACOE STEM UNITS CATALOG OF SERVICES AND WORKSHOPS

<https://drive.google.com/file/d/1yrqLwJnqW1mqpWWWv3pKqiAFU5hkr-Y3/view>

### LA COUNTY MATH LEADERS NETWORK

<http://lcoe.k12oms.org/2237-167859>

**FREE | Aug. 30 (Face-to-Face), Nov. 12, Mar. 13, May 20 (Face-to-Face)**

A series of 4 meetings (Face-To-Face or on-line) supporting district TOSA's, Specialists, Grade Level/Dept. Chairs, and other Education Leaders. The Network offers PD Opportunity as well as networking and support for NGSS and CCSS-Math Implementation.

**Meets LCAP Goals: 1-8**

### CCSS MATH WEBINARS

<http://lcoe.k12oms.org/2237-167879>

**FREE | Sep. 9; Nov. 8; Jan. 24; Mar. 30; May 29**

A series of 5 free 1-hour webinars that will provide you the opportunity to gain information and updates for Common Core State Standards for Mathematics.

All webinars will be archived and you can watch from the comfort of your own classroom!

**Meets LCAP Goals: 2 and 7**





# LACOE STEM Workshops

## Math Workshops

### DESIGNING STRONG CCSS-MATH LESSONS

<http://laoe.k12oms.org/2237-168727>

Oct. 29-30, 2019 | 8am-3pm | LA County Arboretum and Botanic Garden

<http://laoe.k12oms.org/2237-168730>

Dec. 4-5, 2019 | 8am-3pm | Los Angeles Zoo (Tent)

This 2-day training will provide the following skills and resources:

- Develop a strong Math Story,
- Identify the Content and Math Practice,
- Use the 5E Lesson Plan to develop strong lessons,
- Align curriculum to CCSS-Math
- Learn to build context for the content.

Meets LCAP Goals: 1, 2, 4, 5, 6, 7, 8

### THE STEM UNIT OFFERS CUSTOMIZED WORKSHOPS FOR YOUR DISTRICT!

- MINIMUM OF 25 PARTICIPANTS
- PROVIDE AT LEAST 2 MONTHS PRIOR NOTICE
- CONTACT ANTHONY QUAN FOR MORE INFORMATION!
- The STEM Unit will be releasing a catalog of resources soon!
- 

## Math Workshops

### MATH FIELD DAY WORKSHOPS

<http://laoe.k12oms.org/2237-168728>

Dec. 3, 2019 | 8am-12pm | LACOE

<http://laoe.k12oms.org/2237-168729>

Jan. 15, 2020 | 8am-12pm | LACOE

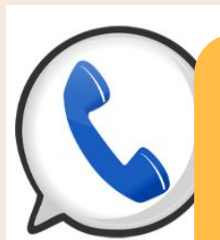
<http://laoe.k12oms.org/2237-168730>

Feb. 3, 2020 | 8am-12pm | LACOE

This 4-hour training is designed to provide participants with the following knowledge, skills and resources:

- Understanding of Math Field Day content, format and guidelines;
- Receive Information regarding registration and preparation for student teams;
- Work with sample tasks for student teams competing in Math Field Day;
- Receive digital copy of Math Field Day highlights;
- Identify and locate resources to connect Math Field Day to core instructional, enrichment, and intervention mathematics programs for grades 4-8.

Meets LCAP Goals: 1, 2, 4, 8



Is there a workshop that you would like to see?

Contact us and let us know what you are looking for!!

Looking for supplemental materials to support the diverse needs of your students? Come to the Fair!



Los Angeles County  
Office of Education



# Supplemental Instructional Materials Fair

We're hosting an IMF featuring supplemental and intervention materials in **all subject areas, grades K-12**. Come and talk with vendors about your differentiation needs!

## Supplemental Instructional Materials Fair

October 17, 2019

8:30 a.m.-3:30 p.m.

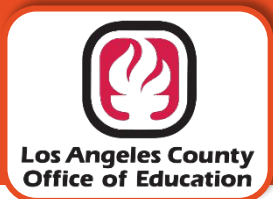
Almanson Court Event Center

700 S. Almanson Ave., Alhambra, CA 91801



Questions? Contact Leslie Zoroya, RLA Coordinator  
zoroya\_leslie@lacoed.edu or 562.922.6496

To register: <http://lacoed.k12oms.org/1540-167806>



# LACOE STEM Workshops

## Math Workshops

### MATH ROUTINES AND STANDARDS FOR MATH

#### PRACTICE:

Middle School:

<http://laoe.k12oms.org/2237-168722>

Nov. 21, 2019 | 8am-3pm | Columbia Memorial Space Ctr.

<http://laoe.k12oms.org/2237-168757>

Feb. 4, 2020 | 8am-3pm | Columbia Memorial Space Ctr.

TK-2nd

<http://laoe.k12oms.org/2237-168725>

Mar. 3, 2020 | 8am-3pm | Columbia Memorial Space Center

3rd-5th

<http://laoe.k12oms.org/2237-168724>

Jan. 16, 2020 | 8am-3pm | Columbia Memorial Space Center

This 1-day training comes from the state Math Community of Practice, pulling from “Routines for Reasoning”. The workshop will provide the following skills and resources:

- Understanding of the balance between Content and Practice,
- Understanding of the components of the 8 math practices,
- Experience in the use of Mathematical Routines for deeper learning,
- Practice in the routines.
- Learn about Math Routines to access content knowledge
- Participate in models of instruction for effective use of SMP’s
- Discuss the shifts and structure to implement in the classroom

**Meets LCAP Goals: 1 2 4 5 6 7 8**

## Math Workshops

### MATH PRACTICES IN ACTION

3rd-5th Grade

<http://laoe.k12oms.org/2237-168731>

Sept. 4-5, 2019 | 8am-3pm | LA County Arboretum and Botanic Garden

Tk-2nd Grade

<http://laoe.k12oms.org/2237-168716>

September 19-20, 2019 | 8am-3pm | Los Angeles Zoo

This 2-day workshop focuses on the Standards for Math Practices as the mechanism for content acquisition. The Standards for Math Practices is integral to the learning of mathematics.

Participants will:

- Learn about Math Routines to access content knowledge
- Participate in models of instruction for effective use of SMP's
- Discuss the shifts and structure to implement in the classroom

**Meets LCAP Goals: 1, 2, 4, 8**



# Los Angeles County Math and Science Leaders Network 2019-2020

A series of 4 meetings (Face-To-Face or on-line) supporting district TOSA's, Specialists, Grade Level/Dept. Chairs, and other Education Leaders. The Network offers PD Opportunity as well as networking and support for NGSS and CCSS-Math Implementation. Participants receive current statewide and local updates regarding CCSS-Math and NGSS implementation efforts, including curriculum, assessment, and professional learning opportunities.



**Los Angeles County  
Office of Education**  
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## Joint Face-To-Face Meeting #1: August 30, 2019

### Math

November 26, 2018  
January 25, 2019  
March 15, 2019

### Science

November 26, 2018  
January 25, 2019  
March 15, 2019

## Joint Face-To-Face Meeting #2: May 20, 2020

### STEM Unit

Anthony Quan  
Consultant III

[Quan\\_Anthony@lacoed.edu](mailto:Quan_Anthony@lacoed.edu)

Spencer Davis  
Unit Secretary

[Davis\\_Spencer@lacoed.edu](mailto:Davis_Spencer@lacoed.edu)

562-401-5486

Math Registration: <http://lacoed.k12oms.org/2237-167859>

Science Registration: <http://lacoed.k12oms.org/1542-167857>

# STEM



Science • Technology • Engineering • Math

save  
the  
date®



**COMMON CORE**  
STATE STANDARDS INITIATIVE

PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER



**Los Angeles County  
Office of Education**

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Leading Educators

STEM Unit

Anthony Quan  
Consultant III

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Spencer Davis  
Unit Secretary

[Davis\\_Spencer@lacoed.edu](mailto:Davis_Spencer@lacoed.edu)

562-401-5486

We are happy to continue to offer free 1-hour webinars. These webinars will provide you the opportunity to gain information and updates around the new Next Generation Science Standards and Common Core State Standards for Mathematics.

Participants will be able to listen to news from local, state, and national levels, including the ability to ask questions!

All webinars will be archived and you can watch from the comfort of your own office or classroom!

Meets LCAP Goals 1-8

Go to individual links for registration and dates.

**CCSS-Math:**

<http://lacoed.k12oms.org/2237-167879>

**NGSS:**

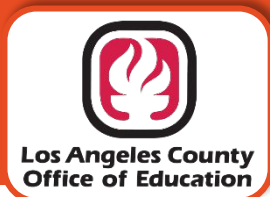
<http://lacoed.k12oms.org/1542-151438>

**STEM**



**NEXT GENERATION  
SCIENCE  
STANDARDS**





# LACOE STEM Workshops

## Science Workshops

## Science Workshops

### LACOE CATALOG OF SERVICES AND WORKSHOPS for 2019-2020:

<http://bit.ly/2lrky0J>

### NGSS CONTENT WORKSHOP

TK-2nd Grade

<http://lacoek12oms.org/1542-168734>

Oct. 10-11, 2019 | 8am-3pm | Location TBA

3rd-5th Grade

<http://lacoek12oms.org/1542-168735>

Nov. 21-22, 2019 | 8am-3pm | LA Zoo (Tent)

Middle School (6th-8th)

<http://lacoek12oms.org/1542-168736>

Jan. 8-9, 2020 | 8am-3pm | Location TBA

These 2-day workshops are designed to provide you with the following knowledge, skills and resources:

- Understand the use of a Phenomenon-Based Lesson,
- See models of instruction under an NGSS Lens,
- Gain an understanding of classroom assessment practices under NGSS,
- Understand the opportunities for access and equity for all students.

**Meets LCAP Goals: 1 2 4 5 6 7 8**

### NGSS WEBINARS

<http://lacoek12oms.org/1542-167884>

FREE | Aug. 24, 2018; Oct. 23, 2018; Dec. 7, 2018; Mar. 1, 2019; Apr. 30, 2019

Periodic updates on all things NGSS. Information includes local, state, and national news. Includes information about CAST, instructional materials, and more! All at the comfort of your own desktop.

**Meets LCAP Goals 1-8**

### CAST LAUNCHING THE 2020 OPERATIONAL ASSESSMENT

<http://lacoek12oms.org/1542-168740>

January 6, 2020 | LACOE | 8am-3pm

<http://lacoek12oms.org/1542-168741>

February 18, 2020 | LACOE | 8am-3pm

This workshop provides an overview of the NGSS Foundational principles, Framework (assessment and equity chapters), and implications for instruction and assessment. The focus of this session is assessment with an exploration of key elements of the California Science Test (CAST). The workshop will focus on item types, embedded assessments, performance tasks and formative assessment strategies. The day will also include a discussion of how the new science item types can inform teaching and learning.

**Meets LCAP Goals: 2, 4, 8**

Los Angeles County Office of Education  
presents



A Collaboration

## Science and the English Learner: Equitable Access for All

MAS and STEM Units of the LACOE Division of Curriculum and Instructional Services cordially invite participation from blended district teams of ELD and STEM/Science teachers, along with instructional leaders with a commitment to nurturing a robust professional collaboration toward supporting English Learner success in NGSS, to an inaugural full-day partnership event. Please join us for this interactive professional learning experience led by Dr. Susan Gomez-Zwiep, Professor, Department of Science Education at California State University, Long Beach. We will learn more about the vital literacy connections between NGSS and ELD Standards along with insights from research and best implementation practices.

Stay tuned!  
Part 2 of this collaborative project  
will be announced soon!

PLUS: MATH AND EL SYMPOSIUM ARE IN THE WORKS!





# NGSS TIME

## Toolkit for Instructional Materials Evaluation

This 3-Day training will provide evaluation tools for district teams to analyze and select materials based on key criteria and scoring guidance.

This workshop focuses on:

- Training District Teams (K-12) to evaluate Instructional Materials for adoption.
- Providing tools for district teams to lead adoption evaluation at their sites.
- Evaluating Instructional Materials for alignment of NGSS and support students in the use of phenomena-based, student-centered approaches leading to students mastering the performance expectations in the CA NGSS.



Want to know if you are the  
pricking right program for  
your district?

This is the training for you!

## JULY 8-10, 2019

LOS ANGELES COUNTY ARBORETUM AND BOTANIC GARDEN

REGISTRATION:

<http://laco.k12oms.org/1542-167841>

September 24-26, 2019

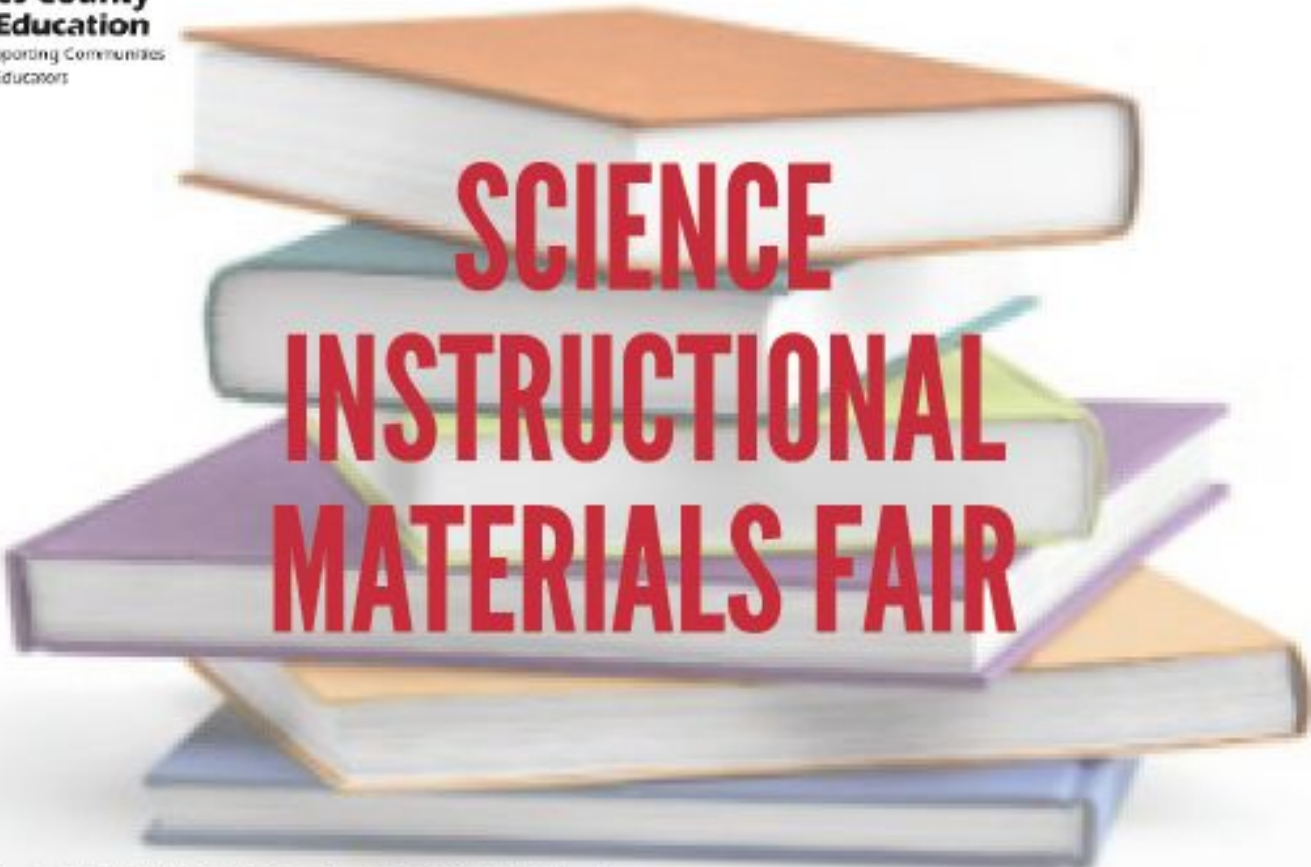
Claremont Unified

<http://laco.k12oms.org/1542-168742>



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A stack of five colorful books (orange, blue, green, purple, and blue) with the title text overlaid.

# SCIENCE INSTRUCTIONAL MATERIALS FAIR

## ALMANSOR COURT

## 8AM-3PM

## SEPTEMBER 17, 2019

A red brushstroke graphic with the text "REGISTER NOW!" overlaid.

### REGISTER NOW!

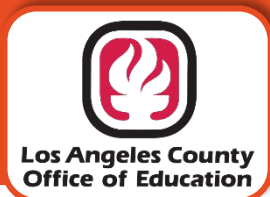
This one-day Fair will be held to serve the needs of districts across Los Angeles County in their effort to support the implementation of Next Generation Science Standards. The Fair is designed to allow time for district and school personnel to learn about the state adoption process and preview instructional programs submitted for adoption, as well as instructional materials from other publishers and non-profit entities. Participants will have access to information and recommendations for conducting your materials adoption.

**Registration includes Program and Refreshments:**

<http://laco.k12oms.org/1542-168650>

**\$25/person**

**For more information: Contact Spencer Davis, STEM Unit Secretary  
(Davis\_Spencer@laco.edu) 562-401-5486**



# LACOE STEM Workshops

## Science Workshops

## Science Workshops

### **LA COUNTY SCIENCE LEADERS NETWORK**

<http://laco.k12oms.org/1542-167857>

**FREE | Aug. 30 (Face-to-Face), Nov. 1, Mar. 20, May 20 (Face-To-Face)**

A series of 4 meetings (Face-To-Face or on-line) supporting district TOSA's, Specialists, Grade Level/Dept. Chairs, and other Education Leaders. The Network offers PD Opportunity as well as networking and support for NGSS and CCSS-Math Implementation.

**Meets LCAP Goals: 1-8**

### **NGSS LESSON PLANNING**

<http://laco.k12oms.org/1542-168738>

**September 12-13, 2019 | 8am-3pm | LA County Arboretum and Botanic Garden**

<http://laco.k12oms.org/1542-168737>

**January 30-31, 2020 | 8am-3pm | LA County Arboretum and Botanic Garden**

This 2-Day training is designed to provide participants with the following knowledge, skills and resources:

- Engage in NGSS through the use of a Conceptual Flow
- Understand how the 3-Dimensions) must work together for students to access content
- Use Phenomenon as the context for learning and engagement
- Participate in a 5E Lesson
- Identify points of assessments
- Understand shifts for learning and teaching under NGSS
- Collaborate and Discuss with others.

**Meets LCAP Goals: 1 2 4 5 6 7 8**

### **The Crosswalk Between Earth Science and Chemistry Classes Using HHMI**

#### **BioInteractive Resources**

<http://laco.k12oms.org/1542-168753>

**September 10, 2019 | Claremont Unified | 8am-3pm | FREE**

Participants will engage with a full phenomena-driven storyline, made up of multiple activities and lessons. We will show teachers how each arc of the storyline develops students understanding of a different component of climate change, and engage in a variety of activities. Everyone will leave with a complete instructional segment and the component lessons.

**Meets LCAP Goals, 1,2,4,7, 8**

### **The Crosswalk Between Earth Science and Living Earth/Biology Classes Using HHMI**

#### **BioInteractive Resources**

<http://laco.k12oms.org/1542-168754>

**September 12, 2019 | Claremont Unified | 8am-3pm | FREE**

Participants will engage with a full phenomena-driven storyline, made up of multiple activities and lessons. We will show teachers how each arc of the storyline develops students understanding of a different component of evolution, and engage in a variety of activities. Everyone will leave with a complete instructional segment and the component lessons.

**Meets LCAP Goals, 1,2,4,7, 8**



# LACOE STEM Workshops

## Science Workshops

## Science Workshops

### NGSS TOOLKIT TRAINING

<http://lacoek12oms.org/1542-167841>

July 8-10, 2019 | 8am-3pm | \$250

Los Angeles County Arboretum

<http://lacoek12oms.org/1542-168742>

September 24-26, 2019 | 8am-3pm | \$250

Claremont Unified

California's statewide NGSS Collaborative developed an instructional materials adoption toolkit based on the Next Gen TIME toolkit developed by Achieve, BSCS and the K-12 Alliance/WestEd. Modifications include California specific concerns (such as the inclusion of Environmental Principles and Concepts). This provides districts with the tools and knowledge to conduct a deeper analysis of instructional materials to ensure their student and program needs are being met through the instructional materials. The State Board of Education (SBE) adopted list provides a starting point of programs that have met the SBE adopted criteria which focused on standards and alignment to the CA Science Framework. The CA NGSS TIME toolkit will not only help districts conduct an in-depth review but will also help districts become better versed in NGSS as they carefully consider instructional materials for adoption to meet their district's needs.

### THE STEM UNIT OFFERS CUSTOMIZED WORKSHOPS FOR YOUR DISTRICT!

- MINIMUM OF 25 PARTICIPANTS
- PROVIDE AT LEAST 2 MOS PRIOR NOTICE
- CONTACT ANTHONY QUAN FOR MORE INFORMATION!
- Ask for the STEM Unit Catalog of Services to help you plan your district or school PD or Download it here:
- <http://bit.ly/2lrky0J>

### SCIENCE INSTRUCTIONAL MATERIALS FAIR

<http://lacoek12oms.org/1542-168650>

September 17, 2019 | 8am-3pm | \$25

*Almanson Court*

29 K-8 programs have been approved. The County Office will provide an opportunity to see these programs and more! This will include High School Materials!  
Meets LCAP Goals: 1 2 4 5 6 7 8

### NGSS ARCHIVED WEBINAR: AUG. 24, 2018

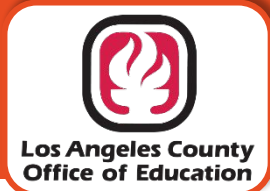
<https://connect.lacoe.edu/pvks0hnteeza>

### NGSS ARCHIVED WEBINAR: OCT. 23, 2018

<https://connect.lacoe.edu/psnp0fnf2oii/>

### NGSS ARCHIVED WEBINAR: DEC. 7, 2018

<https://connect.lacoe.edu/pu899wqn5q3s/>



# LACOE STEM Workshops

## STEM Workshops

### LACOE CATALOG OF SERVICES AND WORKSHOPS:

Go to the following to find out what LACOE's STEM Unit has to offer!

<http://bit.ly/2lrky0J>

### SECONDARY STEM WORKSHOP

<http://laoe.k12oms.org/2237-168913>

February 12-13, 2020 | 8am-3pm | Los Angeles Zoo (Tent)

<http://laoe.k12oms.org/2237-168733>

March 24-25, 2019 | 8am-3pm | Los Angeles County Arboretum and Botanic Garden

This two-day training in partnership with local informal institutions, is designed to provide participants with the following knowledge, skills, and resources:

- Participate in STEM lesson that exhibit NGSS, CCSS-Language Arts, and CCSS-Math.
- Receive NASA/JPL modules and activities.
- Learn how to create a STEM lesson.
- Use real world phenomenon to guide lessons for CCSS and NGSS
- Collaborate and Discuss with other participants

**Meets LCAP Goals: 1, 2, 7, 8**

### ELEMENTARY STEM WORKSHOP

<http://laoe.k12oms.org/2237-168732>

January 27-28, 2020 | 8am-3pm | Los Angeles Zoo (Tent)

This two-day training in partnership with local informal institutions are designed to provide participants with the following knowledge, skills, and resources:

- Participate in STEM lesson that exhibit NGSS, CCSS-Language Arts, and CCSS-Math.
- Receive NASA/JPL modules and activities.
- Learn how to create a STEM lesson.
- Use real world phenomenon to guide lessons for CCSS and NGSS
- Collaborate and Discuss with other participants

**Meets LCAP Goals: 1, 2, 7, 8**



Is there a workshop that you would like to see?

Contact us and let us know what you are looking for!!



# Summer Institute

The California Science Center is offering an intensive, interactive 5-day summer institute that will train district stakeholders on the Next Generation Science Standards and introduce a toolkit to evaluate California-approved NGSS curricula as your district begins the tedious task of adoption.

## HIGHLIGHTS

- Introduction to NGSS architecture
- Hands-on exploration of the 3 dimensions of NGSS
- Learning experience demonstrating instructional shifts
- Preview a library of California-approved NGSS curricula
- Prepare to analyze and evaluate instructional materials for NGSS alignment based on key criteria to meet district needs
- Deep dive into the Paper Screen phase of the state adoption TIME process (Toolkit for Instructional Materials Evaluation)

### WHO

District Administrators, Principals, Science Specialists, K-8 Teachers, TOSAs/Coaches  
**District Teams of 3+ recommended**

### WHEN

July 29 - August 2, 2019  
8:00 am - 3:00 pm

### WHERE

California Science Center  
Wallis Annenberg Building

### COST

\$500 per participant  
3+ group discount: \$400 per participant

Registration includes:

- Take home NGSS e-resources
- Light breakfast & lunch
- Parking
- Special Science Center exhibit experience

**Space is limited. To register, please call (213) 744-2019.  
Please bring a laptop computer. WiFi will be provided.**



CALIFORNIA SCIENCE CENTER  
700 EXPOSITION PARK DRIVE  
LOS ANGELES, CA 90037



Photo Credit: Leroy Hamilton





**Reminder to Register!  
Middle and High School Educators!**

**The WaterWise Campus Workshop**

**Addressing drought, water pollution and water conservation**

Generation Earth invites Los Angeles County middle and high school teachers and students to learn how to:

- Understand the dynamics of urban watersheds in Los Angeles County.
- Utilize watershed management techniques to restore your watershed.
- Positively affect water quality in Los Angeles County.
- Prevent water pollution in Los Angeles County.
- Complete engaging environmental projects using three dimensional learning
- Qualify for a free bus for a project-related field trip.
- Enter raffle for free rain barrel.



**When: Thursday June 20, 2019**

**10am-1pm**

**Registration begins at 9:30am**

*Light breakfast snacks provided.*

*Hours toward LAUSD salary point available.*

**Where: TreePeople**

**12601 Mulholland Drive**

**Beverly Hills, CA 90210**

*Free parking available.*

**Register: By June 19, 2019**

<http://bit.ly/2XCtpCY>

**For more information:**

[Lramos@treepeople.org](mailto:Lramos@treepeople.org)

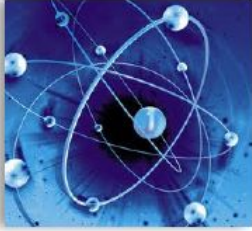
**818-623-4856**



**Public Works**  
LOS ANGELES COUNTY

*Generation Earth is an environmental education program of the Los Angeles County Department of Public Works, presented by TreePeople.*

The UCR Department of Physics and Astronomy  
presents the 11<sup>th</sup> annual



## Summer Physics Academy for High School Teachers



Time: June 24-28, 8:30am-4:00pm

Location: UCR Physics Department

Application deadline March 25th, 2019

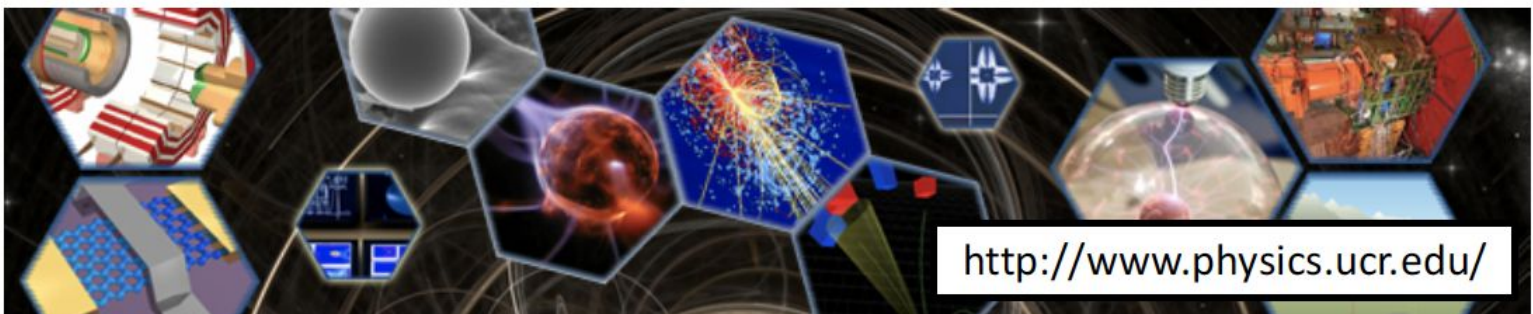
(notifications will be made by April 8<sup>th</sup>)

The Academy is a 5-day institute for high school physics teachers taking place at the UCR Department of Physics and Astronomy and coordinated by UCR physics faculty.

- Refresh your content knowledge of physics concepts
  - Participate in hands-on activities to understand NGSS instruction
  - Learn about current research performed by UCR faculty
  - Network with teachers in the region and UCR faculty
- Morning coffee, lunch, materials and UCR parking permit will be provided for each day of the academy.
- A stipend of \$400 will be given to participants attending all 5 days

**Online application and information details at:**

<https://goo.gl/forms/N5r4vXpoMT8RJtEe2>



<http://www.physics.ucr.edu/>

# CGI: *Cognitively Guided Instruction*

## Grades K-5

### *Summer 2019*



Location: Whittier, CA

To Register

<http://www.edconsultingcsc.com/cgi-workshops-registration/>

## CGI Overview

These institutes are designed for K-5 teachers and administrators who wish to learn about Cognitively Guided Instruction to teach mathematics. We will examine and discuss the development of children's mathematical thinking and build upon students' ideas to best support the learning of math in our classrooms (Carpenter, Fennema, Franke, Levi, & Empson, 2015). The goal of CGI is to foster students' development as problem solvers who bring skill and confidence to mathematics situations. This professional learning opportunity will help participants elicit children's mathematical thinking and use it as the basis for instructional decisions.

## CGI - Year 1

Participants in this institute will:

- Explore how students think about different types of problems and mathematical operations
- Examine the strategies that students use to solve problems
- Explore how students develop number sense through routines
- Begin to generate ideas for how to elicit and build from children's ideas in instruction

June 17 - 19, 2019 from 8:30am - 3:00pm

September 2019 & January 2020 from 8:30am - 12:30pm

Cost: \$650

## CGI - Year 2

Participants in this institute will:

- Explore strategies and structures to facilitate productive mathematical discussions
- Develop expertise to strategically select, pose, modify problems to support learning goals
- Enhance questioning skills to support and extend children's thinking
- Learn about the development of children's thinking about fractions and algebra

June 20-21, 2019 from 8:30am - 3:00pm

September 2019 & January 2020 from 8:30am - 12:30pm

Cost: \$550

More Information & Registration: [EdConsultingCSC.com](http://EdConsultingCSC.com)

# CANMEE LESSON STUDY INSTITUTE

**When:** June 24-28, 2019 • 8:00 - 3:00 PM

**Contact:** Kyndall Brown, PhD, Executive Director CMP

**Where:** A hotel in the LAX Area

P: (310) 794-9885 • EMAIL: kbrown@gseis.ucla.edu

REGISTER AT: <http://sgiz.mobi/s3/CANMEE-Lesson-Study-Institute-complimentary-guests>



## Teams will...

- Understand the CANMEE High Quality Lesson Study cycle in the context of Improvement Science
- Understand the Teaching for Robust Understanding (TRU Math) Framework as a tool to promote Excellence and Equity in mathematics
- Gain an awareness of the CANMEE resources to support Lesson Study ( e.g. The LOFT, The Collaborative Lesson Research (CLR), Facilitators, Commentators, Hubs, Equity Task Force).
- Be prepared to begin the CANMEE High Quality Lesson Study process.

## Presented by:



## Topics covered in the Institute:

- The phases of the lesson study cycle
- Research on Lesson Study
- Excellence and Equity for all students
- Eliminating Deficit Language
- Improvement Science
- The LOFT online support platform
- The Collaborative Lesson Research Report
- Working with Administrators

## Who Should Attend?

Teams of teachers, coaches, and administrators  
No prior experience with lesson study required

The California Mathematics Project can provide support for teams of teachers to attend the institute.

JOIN GENERATION EARTH  
FOR A **FREE** WORKSHOP

## The WaterWise Campus

*Addressing drought and pollution at school*



### IN THIS WORKSHOP LEARN HOW TO:

- Understand the dynamics of urban watersheds in Los Angeles County
- Utilize watershed management techniques to restore your watershed
- Positively affect water quality in Los Angeles County
- Prevent water pollution in Los Angeles County
- Survey water flow across your campus
- Qualify for a free bus for a project-related field trip
- Enter raffle to win a free rain barrel

*Includes informational materials and mid-morning snack*

### WHO

Los Angeles County middle and high school teachers, students, advisors, and administrators (grades 6-12), interested in setting up a campus watershed project



### LOCATION

**TreePeople**

12601 Mulholland Drive  
Beverly Hills, CA 90210

### DATE

Thursday,  
**June 20, 2019**

### TIME

**10 AM – 1 PM**  
Registration begins at 8:30 AM

### TO REGISTER

(818) 623-4856 or [generationearth@treepeople.org](mailto:generationearth@treepeople.org)

Generation Earth is an environmental education program  
of Los Angeles County, presented by TreePeople.

**WATER**



**CONSERVATION**



# CDE Updates and Announcements

## **Mathematics Framework Revision**

The revision process for the *Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve* (*Mathematics Framework*) is now underway. The State Board of Education (SBE) is recruiting members for the Mathematics Curriculum Framework and Evaluation Criteria Committee (CFCC). The CFCC will play a significant role in the revision of the *Mathematics Framework*, which will be revised to reflect current statutes and research in mathematics education. The CFCC provides input on the initial draft of the revised framework in accordance with guidelines approved by the SBE; the final document should be completed in 2021. Visit the [CDE website](#) for more information. **Applications are due August 15, 2019.**

## **UC ANNOUNCEMENT--AREA D LABORATORY SCIENCE REQUIREMENT UPDATE**

<http://tinyurl.com/UCareaDLab2019>

New revisions for the 2019-2020 Academic Year for High School Science Lab Requirements (Area D). As of February 1, 2019, courses submitted to UC in the laboratory science (D) subject area for the 2019-20 school year and onwards must include a laboratory that can be classroom-based, fully online, or a hybrid.

## **2018 SCIENCE INSTRUCTIONAL MATERIALS ADOPTION PUBLIC COMMENTS**

<https://cde.box.com/s/sdkau0r34dbc0812o9hue57yl0nrack2>

## **CAST BLUEPRINT**

<https://www.cde.ca.gov/ta/tg/ca/documents/castblueprint.pdf>

Documents how the CAST is constructed as well as the alignment between the CAST and the California Next Generation Science Standards, is now available. Local educational agencies (LEAs) and teachers are encouraged to use the blueprint as a reference tool in preparing for the CAST.

## **NGSS TIME TOOLKIT**

<https://tinyurl.com/NGSSTIME2019>

CCESA has released the public link to the NGSS Toolkit for Instructional Materials Evaluation (TIME) rubric.

This toolkit was created by the statewide partnership, including CDE, SBE, County Offices of Education, K12 Alliance, California Science Project, and California Science Teachers Association.

These documents may be used as you begin evaluating science instructional materials at all grade levels (including high school).

This is broken up into sections:

- Pre-Screen
- Paper Screen
- and more

**Caution:** without the formal training, there is a possibility of not meeting the fidelity of the toolkit.

## **CAST ITEM SPECIFICATIONS RELEASED**

<https://www.cde.ca.gov/ta/tg/ca/castitemspecs.asp>

## **DESIGNATED SUPPORTS & ACCOMMODATIONS POSTED**

<https://caaspp.cde.ca.gov/supportsandaccommodations.asp>

The California Department of Education (CDE) has posted the 2017–18 California Assignment of Designated Supports and Accommodations data files for the Smarter Balanced Summative Assessments for English language arts/literacy (ELA) and mathematics and for the California Science Test.

**California Department of Education  
Official Letter**

April 25, 2019

Dear County and District Superintendents, Charter School Administrators, and Interested Individuals and Organizations:

## **Request for Reviewers of Kindergarten Through Grade Eight Health Education Instructional Materials**

We are requesting your assistance to recruit individuals to participate in the evaluation of kindergarten through grade eight (K–8) instructional materials for the 2020 Health Education Adoption. This adoption is based on the *Health Education Standards for California Public Schools* and the *Health Education Framework for California Public Schools*, including the evaluation criteria that will be adopted by the State Board of Education (SBE) on May 8–9, 2019.

We are currently accepting applications for the following types of reviewers:

- **Content Review Experts (CREs):** These reviewers are recognized content experts who hold a doctorate degree in health or a related discipline. CREs focus on content accuracy and alignment with the academic content standards.
- **Instructional Materials Reviewers (IMRs):** These reviewers are mostly classroom teachers who teach students in kindergarten or grades one through twelve, have a professional credential under California law, and who have experience with and expertise in standards-based educational programs and practices in health education.

In addition to ensuring that K–8 instructional materials have been carefully and thoroughly evaluated against the standards and criteria adopted by the SBE, reviewers gain a deep understanding of the adoption process and the academic content of several programs. This professional development experience benefits both the participant and his or her school district or organization.

The online application is posted on the Health Education Instructional Materials web page at <https://www.cde.ca.gov/ci/he/im/> under the tab “General Information.” Reviewers will undergo one week of training in Sacramento on April 21–24, 2020, and will then be sent instructional materials to review at their home or workplace. Reviewers will then reconvene in panels for up to four days of deliberations on July 21–24, 2020. The deadline for receipt of completed

applications is Wednesday, July 24, 2019. Please distribute the application link to any and all qualified candidates in your schools or organizations who might be interested in serving on these panels.

We encourage you to help us recruit qualified applicants for these important panels. If you have any questions, please contact Jennifer Bentley, Lead Consultant for the 2020 Health Education Adoption, at 916-324-2452 or [jbentley@cde.ca.gov](mailto:jbentley@cde.ca.gov). Thank you for your assistance and cooperation in disseminating this information.

Sincerely,

Tony Thurmond  
State Superintendent of Public Instruction

Catalina Cifuentes  
Deputy Superintendent  
Teaching and Learning Support Branch

TT/CC:cr  
2019-00151

Last Reviewed: Monday, April 29, 2019

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# CDE Updates and Announcements

## **CAST TRAINING TEST AVAILABLE**

<http://www.caaspp.org/practice-and-training/index.html>

## **NEW ITEMS NOW AVAILABLE FOR GRADE 5, GRADE 8 AND HIGH SCHOOL!**

Training test items include, a 5th grade performance task with eight items; 8th grade five discrete items; and for high school, a performance task with seven items. Items for grade five and high school represent examples of performance tasks that, once the CAST is operational, would be presented in Segment B. The discrete items for grade eight would be presented in Segment A of the operational CAST.

## **CAA FOR SCIENCE TEST NOW AVAILABLE**

<http://www.caaspp.org/administration/about/caa/>

The pilot test for the CAA for science is available in grades five and eight, and one grade in high school (grade ten, eleven, or twelve) as well as students in ungraded programs.

The CAA for science will be administered as an embedded performance task that is part of classroom instruction.

The survey that test examiners must fill out for participation and data collection will be administered using the secure browser and the test delivery system.

## **ACCESSIBILITY RESOURCES**

<http://www.smarterbalanced.org/assessments/accessibility-and-accommodations/>

Students will need to be familiar with the software and have had many opportunities to use it in daily instruction. More information on word prediction can be found in *Smarter Balanced Assessment Consortium: Usability, Accessibility, and Accommodations Guidelines*, available on the California Department of Education Student Accessibility Resource Web Page.

## **CAASPP TEACHER GUIDES AVAILABLE**

<http://www.cde.ca.gov/ta/tg/ca/sbteacherguides.asp>

## **CDE ASSESSMENT RECRUITMENT**

CDE is recruiting classroom science teachers to participate in item writing, item review, and other science assessment development activities. If you would like to be involved in developing California's new science assessment, register yourself today at:

<http://caaspp.org/reviewers.html>

## **SMARTER BALANCED DIGITAL LIBRARY NEWS**

- Self Registration is now available for access to these resources.  
<https://sso.smarterbalanced.org/auth/UI/Login>
- CDE Digital Library Resource Collection Web Page now includes even more collections to support student engagement with the formative assessment process.  
<http://www.cde.ca.gov/ta/tg/sa/collectionresources.asp>

## **NEW IAB'S FOR MATH**

<http://www.caaspp.org/ta-resources/interim.html>

Grade Three: Geometry

Grade Eight: Number System

High School: Geometry Congruence

Geometry Measurement & Modeling

Interpreting Functions Seeing

Structure/Polynomial Expressions Number and Quantity



# CDE Updates and Announcements

## **STATE SCHOOLS CHIEF TOM TORLAKSON ANNOUNCES APPROVAL OF SCIENCE FRAMEWORK**

<http://www.cde.ca.gov/nr/ne/yr16/yr16rel77.asp>

SACRAMENTO—State Superintendent of Public Instruction Tom Torlakson today announced that the State Board of Education (SBE) voted to approve a new Science Framework for California’s public schools that will dramatically upgrade and modernize science instruction.

California becomes the first state in the nation to adopt a Science Framework based on Next Generation Science Standards and is now poised to lead the nation in rolling out a rich, updated, 21st century science curriculum. The Science Framework provides guidance to teachers, administrators, and textbook publishers for the teaching of the Next Generation Science Standards from transitional kindergarten through twelfth grade. The Science Framework expands and refines discussion of climate change and for the first time includes engineering, environmental literacy, and strategies to support girls and young women in science.

## **CCSS COMMUNICATIONS TOOLKIT**

<http://frameworksinstitute.org/toolkits/californiacommoncore/>

This Toolkit, sponsored by the Californians Dedicated to Education Foundation, is intended to support communicators in framing the issues that surround Common Core implementation. It includes sample communications, as well as annotations that unpack the framing strategy being illustrated, so that the recommendations can be extended to new communications. Users are encouraged to borrow this language—no citation or special permissions is needed—and also to feel free to adapt the examples to the immediate needs of a local communications context.

## **SCIENCE CREDENTIAL INFORMATION**

<http://www.ctc.ca.gov/notices/coded/2014/1409.pdf>

The option to earn a specialized science content area on a Single Subject Teaching Credential will be discontinued as of August 1, 2020. Read more about it here!

## **CDE LAUNCHES NEW STANDARDS SUPPORT OFFICE**

<http://www.cde.ca.gov/nr/ne/yr16/yr16rel3.asp>

SACRAMENTO—State Superintendent of Public Instruction Tom Torlakson today named Brent Malicote Director of the California Department of Education's (CDE) new Standards Support Office and Jeff Breshears as Director of the Local Agency Systems Support Office. Both appointments are key CDE leadership positions and reflect the department's increasing emphasis on supporting local districts and schools, Torlakson said. The Standards Support Office will provide increased access to the tools and resources necessary to implement the new, more rigorous California learning standards, which cover English-Language Arts, Math, Science, and English Language Development.

## **NGSS SYSTEMS IMPLEMENTATION PLAN FOR CA**

<http://www.cde.ca.gov/pd/ca/sc/documents/scienceimplementationplan102714.pdf>

Adopted plan for the implementation of the new Next Generation Science Standards.

## **CALIFORNIA STEM BLUEPRINT**

<http://www.cde.ca.gov/pd/ca/sc/documents/innovate.pdf>

Superintendent Tom Torlakson has released the long awaited STEM Blueprint for California!

## **GUIDANCE FOR HIGH SCHOOL CCSS MATERIALS**

<http://www.cde.ca.gov/nr/ne/yr14/yr14rel76.asp>

SACRAMENTO—School administrators have a new tool to help gauge how well high school math materials align to the Common Core, State Superintendent of Public Instruction Tom Torlakson announced, as he unveiled the new Standards Maps for Higher Mathematics.



# CDE Updates and Announcements

## **CALTPA CONTENT EXPERT PANEL**

<http://www.cvent.com/d/bfqdr6>

The Commission on Teacher Credentialing (CTC) is seeking practicing educators and educator preparation faculty to participate in the redevelopment of the California Teaching Performance Assessment (CalTPA). We are currently seeking content experts in the following credential areas: **Multiple Subject**, Agriculture, Art, Business, English, History/Social Science, Health, Home Economics, Industrial and Technology Education, Music, Mathematics, Physical Education, **Science**, World Languages. If you have questions about how to participate, please submit your inquiry to [caltpa@pearson.com](mailto:caltpa@pearson.com).

## **CAASPP CONTENT REVIEWER APPLICATION**

[http://etsforms.formstack.com/forms/content\\_reviewer\\_application](http://etsforms.formstack.com/forms/content_reviewer_application)

Needed: California educators to assist with new CAASPP tests! Ongoing opportunities await in the development of the following assessments:

- California Alternate Assessments for English language arts, mathematics, and science
- California Science Test
- California Spanish Assessment

The California educators selected for these opportunities will contribute their expertise as they work with the CDE and its partners on new item development, including item writing, item review, data review, and item functionality or forms review.

Now might be the time—go online to complete the CAASPP content reviewer application. Questions? Contact Educational Testing Service by phone (800-955-2954) or by email at [caltac@ets.org](mailto:caltac@ets.org).

## **FAQ NEW CA ASSESSMENT OF STUDENT PERFORMANCE AND PROGRESS**

<http://www.cde.ca.gov/ta/tg/sa/ab484qa.asp>

Information about the new assessment system, including questions regarding science assessments.

For more information, check out this link from CSTA:

[http://www.casience.org/csta/leg\\_startests.asp](http://www.casience.org/csta/leg_startests.asp)

## **NEW SPANISH BROCHURES FOR ENGLISH & MATH COMMON CORE STANDARDS AND ELD STANDARDS**

<https://www.scoe.net/castandards/Pages/default.aspx>

Eight brochures on the mathematics and English language arts standards for parents are now available in Spanish and a new standards brochure for the California English Language Development Standards has been produced.

The Spanish language versions of the eight brochures explains the California Common Core State Standards for English Language Arts/Literacy and Mathematics to parents, guardians, and community members. The brochures are organized by grade spans and provide insights and resources to aid student learning.

The new brochure on the ELD Standards available in both Spanish and English helps parents understand how the standards support English learners and focuses on essential English language skills for students in kindergarten through grade twelve. The brochure also describes the progression of learning as English learners become fluent in English.

## **A BLUEPRINT FOR ENVIRONMENTAL LITERACY**

<http://www.cde.ca.gov/pd/ca/sc/documents/environmentalblueprint.pdf>

"Now is the moment to elevate environmental literacy as an essential element of a 21st century education in California, and to establish the leadership, collaboration, strategic partnerships and necessary funding to ensure environmental literacy for all California students." Tom Torlakson, State Superintendent

"To become environmentally literate, learners need to engage with the environment in their classrooms, in gardens and green spaces, in their communities, at aquariums and science centers, and in wild and natural places," says Craig Strang, co-chair of the Literacy Task Force and Lawrence Hall of Science Associate Director.

# CDE Updates and Announcements

# Additional Announcements

## Reminders for the California Alternate Assessment for Science!

This week, we offer quick reminders regarding the administration of the California Alternate Assessment (CAA) for Science field test performance tasks:

- The period for administering the CAA for Science differs from the other CAASPP assessments. Since January 8 of this year, LEAs have had access to the online 2018-19 CAA for Science performance tasks for administration to eligible students. LEAs can continue administering this assessment through the end of their instructional calendar or July 15, 2019, whichever comes first. Remember, students must attempt **all three** embedded performance tasks to complete the assessment.

- Three completion status reports are available in TOMS, under "Reports," that can assist in determining whether a student has completed all three performance tasks.

- ü The summary report (i.e., LEA-Level Student Completion Status Summary Report), which provides the total number of students registered to take the assessment and the number of students who have started and completed testing

- ü The LEA-level student report (i.e., LEA-Level Student Completion Status Report), which provides the individual student completion status and shows whether a student is registered to take the test, started testing, completed testing, or has a condition code (i.e., parent/guardian or medical exemption)

- ü The school-level report (i.e., School-Level Student Completion Status Report), which provides the same information as the LEA-level student report but at the school level

These handy reports can be used for any of the CAASPP assessments.

For more information on accessing the student completion reports in TOMS, please contact CalTAC by phone at 800-955-2954 or by email at [caltac@ets.org](mailto:caltac@ets.org).

## NAEP Mathematics Assessment Framework Update

The National Assessment Governing Board is currently leading updates to the Mathematics and Reading Assessment Frameworks for the National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card. The frameworks guide development of the assessments and define what knowledge and skills students need in each subject area. Final updates to the frameworks will be reflected in the administration of the 2025 Reading and Mathematics assessments.

WestEd is a key partner in these efforts and has convened panels of subject-matter experts, practitioners, and other stakeholders to develop recommendations for improvement. An updated draft of the Mathematics Assessment Framework is available to the general public for additional feedback until June 1.. As leaders in mathematics education, members of CMC are encouraged to provide feedback. To learn more about how you can provide feedback on this important framework, please visit: <https://www.wested.org/project/2025-naep-assessment-frameworks-update/>.



## STATE/LOCAL/NATIONAL ORGANIZATION ANNOUNCEMENTS



# Math and Science Announcements

### **2019 TEACHER INSTITUTE**

Feb. 16, 2019; March 9, 2019; May 18, 2019 | 8am-5pm

[https://drive.google.com/drive/folders/1Mq-xqY3L\\_G8Ky-H1NVPccvZA302Xb\\_8W?usp=sharing](https://drive.google.com/drive/folders/1Mq-xqY3L_G8Ky-H1NVPccvZA302Xb_8W?usp=sharing)

Hosted by the Los Angeles Department of Water and Power, in partnership with the Ca. Environmental Education Foundation (CEEF), Metropolitan Water District (MWD) and the Ca. Dept. of Water Resources. This is an engaging 3-Session workshop style opportunity to learn best practices in environmental stewardship, gain knowledge on cutting edge science, and develop professional skills through expert Environmental Education and pedagogy institute presenters. Go to the link for more information.

**\$600 Teacher Stipend**

### **NGSS WEBSITE**

<http://www.nextgenscience.org/>

The site offers a more user friendly layout, extensive search features for all resources, and additional functionality to access content including the NGSS appendices and performance expectations.

### **CAL WATER CHALLENGE**

<https://tinyurl.com/CalH2O2019>

Open to 4th-6th Grade.

\$3500 Grand Prize for classroom and a tent-camping experience in the Santa Monica Mountains!

### **CHILDREN NOW**

<https://www.childrenow.org/>

Resources to assist in writing NGSS into LCAPs.

### **STEM ECOSYSTEMS: MONTHLY NEWSLETTER**

<http://mailchi.mp/0a42aaa242cf/april-2017-the-connection-stem-learning-eco-systems-monthly-newsletter-1450877?e=9f1172c65c>

This newsletter, published by STEM Ecosystems, provides news, resources, and ideas to engage cross-sector STEM learners everywhere.

### **CALIFORNIANS DEDICATED TO EDUCATION**

<http://cdefoundation.org/steam/ca4ngss/>

NGSS communications toolkit available with ready-to-use source materials for all your presentations or talking points!

Hello Math Network,

The 2019-2020 meeting dates have been set and are on the Google doc (<http://www.tinyurl.com/socaltosadates>). The hope is that having this information far in advance will make attending the meetings easier. The first page shows the 2019-2020 dates so you have to scroll down if you are looking for previous dates. We've also copied and pasted the meeting info below as well as attached a PDF version of the information. We tried to choose locations that are more central with favorable traffic patterns for most, but representative of different parts of our greater region. Thanks to all the districts and educators who've helped make this happen!

As a reminder, this group is open to all educators who support math teachers including TOSAs and coordinators. Please forward this information to anyone who would find it useful. Also, here are the most often requested links:

- Join the group's mailing list: <http://www.tinyurl.com/socaltosa>
- View others in the group: <http://www.tinyurl.com/socaltosalist>
- See future and past meeting dates/locations: <http://www.tinyurl.com/socaltosadates>
- Edmodo group code: wur3bb

The meeting dates and locations are:

**September 26, 2019**

Whittier City School District  
7211 Whittier Ave  
Whittier, CA 90602

**November 7, 2019**

Saddleback Valley Unified School District  
25631 Peter A Hartman Way  
Mission Viejo, CA 92691

**January 14, 2020**

Chaffey Joint Union HSD  
211 W. Fifth St.  
Ontario, CA 91762

**March 12, 2020**

Hacienda La Puente Unified School District  
15959 E. Gale Ave.  
Industry, CA 91716

**May 14, 2020**

San Bernardino County  
Superintendent of Schools  
West End Educational Center  
8265 Aspen St.  
Rancho Cucamonga, CA 91730

Thanks!

Nanette Johnson, Audrey Mendivil, Robert Kaplinsky,  
Lindsey Gatfield, Lauren Johnson, Gabriel Ward, and Brian Mahaffey

Questions? Email Nanette at [njohnson@dusd.net](mailto:njohnson@dusd.net), Lindsey at [lindsey.gatfield@svusd.org](mailto:lindsey.gatfield@svusd.org) or Audrey at [audrey.mendivil@sdcoe.net](mailto:audrey.mendivil@sdcoe.net)

## Southern California Math Teacher Specialist Network





# Student Opportunities



## **STUDENT ACTIVITY TRUST FUND**

Applications for Fall 2019 grants are due on September 25, 2019. Access the link below to apply. Please check the CMC website for guidelines and more information. Link to application form: <http://bit.ly/CMCSATFapply>

Donations are most appreciated to help us carry on this important work that directly benefits California's students. If you would like to make a donation to the Student Activity Trust Fund you can mail a check to the SATF Treasurer: Chris Tsuji, 670 Choctaw Drive, San Jose, CA 95123

For other questions about SATF, contact: Ma Bernadette Salgarino, Ed.D., SATF Chairperson, [bernadette.salgarino@gmail.com](mailto:bernadette.salgarino@gmail.com)

## **Coding Competition**

### **CYBER ROBOTICS CODING COMPETITION**

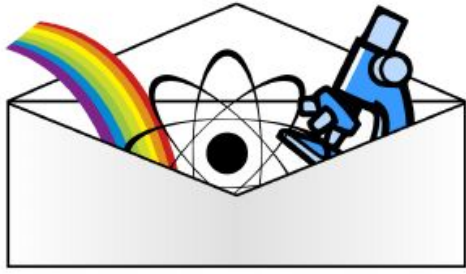
<http://iscefoundation.org/cyber-robotics-coding-competition/>

#### **See Link for More Information**

The Cyber Robotics Coding Competition (CRCC) is a program of the Intelitek STEM and CTE Education Foundation with support from Intelitek, CoderZ and Oracle Academy. CRCC provides middle school-aged students and educators with the opportunity to learn how robots work, build coding-robotics skills of real or virtual 3D robots—and expand their knowledge of STEM careers — during an interactive, fun, and exciting online competition that culminates in a live, in-person experience. More than 20,000 students from all over the world have participated in CRCC events so far.

CRCC is powered by the CoderZ Cyber Robotics Learning Environment, developed by Intelitek.

2019-20 TEACHER APPLICATIONS NOW OPEN!



# Letters to a Pre-Scientist

**A SCIENCE PEN PAL PROGRAM CONNECTING  
MIDDLE SCHOOL STUDENTS WITH REAL  
SCIENTISTS TO DEMYSTIFY STEM CAREERS!**



Each student receives **1-1 mentorship from a STEM professional** to explore *higher education and STEM career paths* that relate to their specific interests.

Our **no-opt out, in-school approach** aims to empower *all* students to see themselves as future scientists by expanding students' awareness of *who works in STEM and what they do at work*.

The **snail mail letter format** connects students to new places through *low-stakes, authentic* reading and writing opportunities during science class.

We are recruiting **5th-9th grade science teachers** in select states at schools where *>60%* of students are eligible for free or reduced-price lunch.

*We provide training, ongoing implementation support & resources!*

**Check your eligibility and apply by May 6th:**

<https://www.prescientist.org/for-teachers/penpalprogram/>

EMAIL [LUCY.MADDEN@PRESCIENTIST.ORG](mailto:LUCY.MADDEN@PRESCIENTIST.ORG) WITH ANY QUESTIONS





# Teacher Opportunities



## **LAWRENCE LIVERMORE NATIONAL LABORATORY WORKSHOPS**

<http://bit.ly/2WqznGa>

The Teacher Research Academy at Lawrence Livermore National Laboratory in Livermore, CA, offers professional development programs for middle and high school teachers and community college faculty. Participants engage in a continuum of standards-based instruction, progressing from novice to mastery. Workshops support NGSS' DCI and SEP.

The following workshops will be offered:

- Technical writing for Science Class: June 10-11, 2019
- Modeling for Science and Math: June 12-14 and June 17-21, 2019
- Bioscience: June 12-14 and June 17-21, 2019
- Fusion and Astrophysics: June 19-21 and June 24-28, 2019
- 3D Print and Design: July 10-12 and July 15-19, 2019

Continuing education credits and graduate credits are available.

## **BSCS AND AAAS SEEK FIELD TESTERS FOR ASSESSMENT TASKS**

[https://www.research.net/r/FT\\_ASPECT](https://www.research.net/r/FT_ASPECT)

BSCS Science Learning and AAAS Project 2061 are recruiting educators to help them field test draft assessment tasks that measure students' ability to use the three dimensions of science learning to make sense of energy-related phenomena. They are recruiting elementary, middle, and high school science teachers and college/university faculty willing to administer the online test to their students between April 15 and June 31, 2019.

## **EVOLUTION EDUCATION'S WORKSHOP**

<http://bit.ly/2FLqKz5>

This workshop for middle and high school teachers takes place July 10-12, 2019 at Mountain Lake Biological Station in Pembroke, Virginia. Participants to field work with biologists to learn about current evolution research, discuss strategies for teaching ecology and evolutionary biology, take part in hands-on demonstrations, and attend evening seminars. Lodging and meals are paid for, and a \$200 stipend is available.



# Teacher Opportunities



## **LAWRENCE LIVERMORE NATIONAL LABORATORY WORKSHOPS**

<http://bit.ly/2WqznGa>

The Teacher Research Academy at Lawrence Livermore National Laboratory in Livermore, CA, offers professional development programs for middle and high school teachers and community college faculty. Participants engage in a continuum of standards-based instruction, progressing from novice to mastery. Workshops support NGSS' DCI and SEP.

The following workshops will be offered:

- Technical writing for Science Class: June 10-11, 2019
- Modeling for Science and Math: June 12-14 and June 17-21, 2019
- Bioscience: June 12-14 and June 17-21, 2019
- Fusion and Astrophysics: June 19-21 and June 24-28, 2019
- 3D Print and Design: July 10-12 and July 15-19, 2019

Continuing education credits and graduate credits are available.

## **BSCS AND AAAS SEEK FIELD TESTERS FOR ASSESSMENT TASKS**

[https://www.research.net/r/FT\\_ASPECT](https://www.research.net/r/FT_ASPECT)

BSCS Science Learning and AAAS Project 2061 are recruiting educators to help them field test draft assessment tasks that measure students' ability to use the three dimensions of science learning to make sense of energy-related phenomena. They are recruiting elementary, middle, and high school science teachers and college/university faculty willing to administer the online test to their students between April 15 and June 31, 2019.

## **EVOLUTION EDUCATION'S WORKSHOP**

<http://bit.ly/2FLqKz5>

This workshop for middle and high school teachers takes place July 10-12, 2019 at Mountain Lake Biological Station in Pembroke, Virginia. Participants to field work with biologists to learn about current evolution research, discuss strategies for teaching ecology and evolutionary biology, take part in hands-on demonstrations, and attend evening seminars. Lodging and meals are paid for, and a \$200 stipend is available.



# Teacher Opportunities

## **ASM MATERIALS CAMPS**

<http://bit.ly/2EhluBu>

Sponsored by ASM, the professional society for materials scientists and engineers, this week-long, hands-on lab experience shows teachers how to use applied engineering techniques in their classrooms and make core science and math principles more engaging and accessible for students. Participants work with metals, ceramics, polymers, and composites to learn how to use them with students. The camps are geared toward middle and high school science teachers, though preservice science, art, math, and community college teachers may apply.

Teachers can complete the program as residential participants or commuters at college campuses nationwide in June, July, and August. The camps are free for attendees, and continuing education and graduate credits are available.

## **KNOWLES ACADEMY COURSES**

<http://bit.ly/2H8HxyE>

These courses are designed and facilitated by experienced teachers and include one semester or year of mentoring to help participants implement what they learn. Participants also gain access to a national network of teachers who share resources and support one another. This summer's courses are Engaging Math and Science Students in Engineering Design; Using Effective Group Work to Maximize Learning for All Students; Implementing Teacher Coaching to Improve Classroom Practice and Students Learning; Designing Instructional Tasks to Increase student Engagement and Learning in Science; Physics for the Next Generation: The Pasterns Approach; and Designing Instructional Tasks to Increase Student Engagement and Learning in Math.

Financial assistance is available.

**For more opportunities, check out**  
**[www.nsta.org/calendar](http://www.nsta.org/calendar)**



# GRANTS INFORMATION

## **JETBLUE FOUNDATION**

<https://www.jetblue.com/jetblue-for-good/jetblue-foundation/>  
<https://www2.jetblue.com/p/JetBlue-Foundation-Grant-Guidelines.pdf>



As an airline, JetBlue has made a commitment to encourage STEM education by offering opportunities to students, as early as the grade school level, for STEM studies. In order to ensure the future success of the aviation industry, the JetBlue Foundation is taking this commitment even further. The Foundation provides educational opportunities and unique experiences to traditionally underserved communities.

## **GRANTWATCH**

<http://california.grantwatch.com/cat/42/teachers-grants.html>

Grants for public school teachers for the improvement of education, grants for classroom supplies, innovative teaching strategies, and or professional development teaching opportunities. Find classroom grants for school funding, grants to public school educators to enhance teaching, provide support for STEM professionals and for the pursuit of careers in teaching. 23 Teacher Grants for California.



## **PROJECT PRODUCE GRANT**

<http://www.thelunchbox.org/programs/grants/>

**\$2500 | One-Year Grant | No Deadline**

**Grants will be determined on an ongoing basis depending on available funding.**

Project Produce helps schools increase kids' access to fresh fruits and vegetables and provides nutrition education through fun lunchroom learning activities. The grant program is designed to help create experiential nutrition education when and where students make their food choices: in the cafeteria. The grants support food costs to incorporate fruit and vegetable tastings into the school's nutrition program.



## **ROBOTICS EDUCATION AND COMPETITION FOUNDATION GRANT**

<https://www.roboticseducation.org/district-grants/>

The REC Foundation seeks to increase student interest and involvement in science, technology, engineering, and mathematics (STEM) by providing significant initial equipment and operational support for regional partnerships and/or school districts committed to full implementation of sustainable VEX Robotics Competition teams in a given geographic area.

Participants interested in a regional partnership bringing VEX IQ Challenge and/or VEX Robotics Competition programs to their organization (school districts, home-school groups, boys and girls clubs, boy/girl scouts, etc. will all be considered) should download and review this [Request for Proposal](#) for a VEX Regional Grant.



# GRANTS INFORMATION

## **BRINKER INTERNATIONAL GRANTS**

<http://bit.ly/2A2riiE>

Brinker International supports communities in which employees of its Chili's and Maggiano's Little Italy franchises work and live. Grants go to nonprofit organizations with programming in education, diversity, arts, social services, and health. Requests are reviewed on an on-going basis, and it may take four to six weeks to review a request. **YEAR ROUND APPLICATION**

## **VOYA UNSUNG HEROES GRANTS**

<https://go.voya.com/2UcEsRw>

Each year, Voya Financial provides \$2000 grants to 100 educators with innovative project ideas for their classrooms. Projects should be creative and positively influence students. At least one grant awarded in each of the 50 states. The top three winners will receive additional prizes of \$25000 (1st Place), \$10000 (2nd Place, and \$5000 (3rd Place). Full-time teachers, principals,

## **VWR/AVANTOR FOUNDATION GRANTS**

<http://bit.ly/2TNrhpf>

The foundation provides these grants to K12 school STEM Programs that go beyond the textbook (an are not funded by government or tuition dollars); professional development program for teachers; and science-related camps for students. Funds can be used to support the purchase of supplies and equipment for such programs or for student or teacher scholarships.

**Applications are due throughout the year.**

**FOR MORE GRANTS, AWARDS, FELLOWSHIPS AND COMPETITIONS:  
GO TO [www.nsta.org/calendar](http://www.nsta.org/calendar)**



# GRANTS INFORMATION

## **ARRL'S VICTOR C. CLARK YOUTH INCENTIVE PROGRAM**

<http://bit.ly/2QHRMev>

This American Radio Relay League (ARRL) Foundation program provides mini-grants to groups that promote high school age (or younger) students' participation in amateur radio. High School radio clubs, youth groups, and general interest clubs with program for young people are eligible. Grants of up to \$1000 may be used for equipment, training materials, and local service projects; preference is given to those with matched funding that is raised locally.

## **CRAYOLA'S CHAMPION CREATIVELY ALIVE CHILDREN: CREATIVE LEADERSHIP GRANTS**

<http://bit.ly/2JToOtY>

Crayola gives grants to innovative leadership teams planning to build their school's creative capacity through are-infused education. Twenty elementary and middle schools in the US and Canada will receive \$2500 and \$1000 worth of Crayola products. Projects should focus on collaboration, leadership, sustainability, and visual arts, and include the development of a Creative Leadership Team.

**Principals who are National Association of Elementary School Principals members can apply by June 21, 2019.** Those who submit early-bird applications by June 3, 2019 get a Crayola product Classpack.

## **ASM'S KISHOR M. KULKARNI DISTINGUISHED HIGH SCHOOL TEACHER AWARD**

<http://bit.ly/2WsaBfr>

ASM International, the professional society for materials scientists and engineers, present this award to recognize one high school science teacher who has made a significant and sustained impact on precollege students!

The honoree will receive a \$2000 cash grant and up to \$500 in travel funds to attend the ASM Award Dinner

Suggested candidates include past recipients of ASM Foundation K-12 Teacher Grants and ASM Materials teachers camp. **DUE: JUNE 30, 2019**

# Outdoor, Marine Science and Field Studies

## Marine Science Floating Laboratory

[www.thinkwatershed.org](http://www.thinkwatershed.org) Grades 4-12

The Marine Science Floating Laboratory provides students and teachers with the opportunity to explore the biodiversity of the marine ecosystem through hands-on field study during a 3-4 hour cruise in and around Los Angeles Harbor. Students collect and release marine organisms for observation and study. Investigations are customizable, but generally include: plankton collection and observation, marine mammal observation, bottom sediment sampling and observation, otter trawl catch and observation of adaptation and morphology, water quality and physical oceanography.



FOR MORE INFORMATION ABOUT THESE PROGRAMS, CONTACT

GARY WIDDISON  
PROJECT DIRECTOR  
[WIDDISON\\_GARY@LACOE.EDU](mailto:WIDDISON_GARY@LACOE.EDU)

MICHELLE RAMIREZ  
UNIT SECRETARY  
[RAMIREZ\\_MICHELLE@LACOE.EDU](mailto:RAMIREZ_MICHELLE@LACOE.EDU)  
562-922-6330

## Los Angeles County Outdoor Science School

[www.outdoorscienceschool.org](http://www.outdoorscienceschool.org) Grades 3-12

The Outdoor Science School provides rigorous, hands-on, standards-based science field study in the beauty and wonder of nature's classroom. Scientific thinking processes, critical and evaluative thinking skills, group collaboration and direct instruction combine to provide the very best science instruction. Students participate in over 27 hours of small group instruction while attending the Outdoor Science School. The Los Angeles County Outdoor Science Schools are regularly certified by the California State Department of Education and are widely recognized for excellence in education. Contact us for customized field studies opportunity.



# Conferences

## SAVE THE DATE

CMC-SOUTH 60TH ANNUAL CONFERENCE  
<http://www.cmc-south.org/2019-conference.html>

Palm Springs | November 15-16, 2019

**REGISTRATION NOW OPEN!!**



CMC-NORTH 62ND ANNUAL CONFERENCE  
<https://www.cmc-math.org/north-registration>

Asilomar | December 6-8, 2019

**Registration Now Open!**

CDE STEAM Symposium

<https://www.stemcalifornia.org/>

Anaheim | December 9-10, 2019

**Registration Now Open!**

Call for Workshop Proposals Link:

<http://bit.ly/2wL8EcH>

Registration Link:

<http://bit.ly/2Zh481y>

CA Science Teachers Association  
Conference

<https://cascience.org/>

San Jose | October 18-20, 2019

Registration Link:

<https://members.cascience.org/event-registration?reload=timezone>

CA Bilingual Educators Conference

<http://www.gocabe.org/>

San Francisco | April 8-11, 2020





# Conferences

**INSTRUCTIONAL  
MATERIALS FAIR  
FOR INTERVENTION:  
ELA, ELD, AND MATH  
Fall 2019 | LACOE  
INFORMATION WILL BE  
COMING SOON!**

**NGSS  
INSTRUCTIONAL  
MATERIALS FAIR!  
FALL 2019**

<http://laoe.k12oms.org/1542-168650>

**Sept. 17, 2019 | Almansor Court | 8am-3pm |  
\$25**

## **2019 CALIFORNIA ASSESSMENT CONFERENCE: PROFESSIONAL LEARNING FOR CLASSROOM EDUCATORS**

The California Department of Education (CDE) has partnered with the Sacramento County Office of Education (SCOE) to hold the first annual **California Assessment Conference on October 16–18, 2019, at the Oakland Convention Center.**

The intent of this new conference is to offer a single annual conference to replace the multiple training sessions held throughout previous years, dedicated to the various components of California's system of assessments.

The 2019 California Assessment Conference is designed specifically for classroom educators, and team attendance is encouraged. With the goal of building connections between assessments and the classroom, the conference will offer teachers an opportunity to customize their learning and hear from their peers about the best practices for California assessments. The single conference model will minimize the time teachers spend away from their classrooms as they discover practical approaches to using assessments to improve teaching and learning.

Additional information about this professional learning opportunity is available on the conference website at <http://www.cdecac.org>. **Event registration will open on March 15, 2019.**

If you have any questions about the California Assessment Conference, please contact the Sacramento County Office of Education at [caaspp@scoe.net](mailto:caaspp@scoe.net).

# CA NGSS STATEWIDE ROLLOUT

## ENVIRONMENTAL LITERACY



### ABOUT THE TRAINING

The California Next Generation Science Standards (NGSS) Statewide Rollout: Environmental Literacy is a two-day professional learning geared toward grade K-12 academic coaches, administrators, curriculum leads, and teacher leaders. Participants will experience grade appropriate learning sequences with an environmental literacy focus and examples of local environmental phenomena. A variety of community-based partners will feature resources that use the environment as a context for supporting student learning and CA NGSS implementation. It is recommended that districts send teams of four to six, which include at least one administrator.

Check-in for the two-day Rollout begins at 7:30 a.m. followed by a continental breakfast. Sessions run from 8 a.m. - 3:30 p.m. both days. Cost of training is \$250 per attendee. Fee includes all materials, continental breakfast and lunch both days.

Payment can be made by check or credit card. All payments must be received prior to the Rollout location date you are attending. NO purchase orders are accepted. NO participant cancellation refunds.

For questions or more information, please contact Amy Kennedy at [akennedy@sjcoe.net](mailto:akennedy@sjcoe.net) or (209) 468-9027.

### REGISTER

<https://cvent.me/91EIL>

#### SEPTEMBER 30 - OCTOBER 1, 2019

Host: San Joaquin County Office of Education (SJCOE)  
Location: SJCOE Wentworth Education Center, Stockton

#### OCTOBER 8-9, 2019

Host: San Diego County Office of Education  
Location: Marina Village Conference Center, San Diego

#### OCTOBER 22-23, 2019

Host: Los Angeles County Office of Education  
Location: Almansor Court, Alhambra

#### OCTOBER 24-25, 2019

Host: San Mateo County Office of Education  
Location: San Mateo County Office of Education, Redwood City

#### OCTOBER 28-29, 2019

Host: Tulare County Office of Education  
Location: Tulare County Office of Education, Visalia

#### NOVEMBER 5-6, 2019

Host: Ventura County Office of Education (VCOE)  
Location: VCOE Conference and Educational Services Center, Camarillo

#### NOVEMBER 5-6, 2019

Host: Sacramento County Office of Education (SCOE)  
Location: SCOE Conference Center, Mather

#### NOVEMBER 21-22, 2019

Host: San Bernadino and Riverside County Offices of Education  
Location: West End Educational Service Center, Racho Cucamonga

#### DECEMBER 2-3, 2019

Host: Tehama County Department of Education  
Location: Tehama County Department of Education, Red Bluff

#### DECEMBER 11-12, 2019

Host: Orange County Department of Education  
Location: Orange County Department of Education Conference Center, Costa Mesa

#### DECEMBER 16-17, 2019

Host: Imperial County Office of Education  
Location: Imperial Valley College, Imperial

Presented by the California County Superintendents Educational Services Association/County Offices of Education, K-12 Alliance @WestEd, California Science Project, and the California Science Teachers Association.



**CISC**  
Curriculum and Instruction  
Steering Committee



# SESSION DETAILS

## DAY 1

### Opening: Call to Action

Environmental learning and science go hand in hand in providing youth with rich opportunities to connect to local environments, see the relevance of science in their lives, build scientific and environmental literacy, and provide empowering opportunities to engage as members and change makers of their communities. Youth from the local community present a call to action to inspire educators in positively shaping the world of today and tomorrow by providing opportunities for such powerful learning.

### K-8 | EDUCATORS

#### Grade Span Lessons and Debrief

Utilizing California's Environmental Principles and Concepts (EP&C) as a focus, participants experience a phenomenon-based grade-span appropriate learning sequence (K-2, 3-5, 6-8) that includes explorations and sense-making strategies leading to an explanation of the phenomenon. Understanding the phenomenon combined with EP&Cs allows students to further identify actions that can be taken to positively impact the local environment. The deep debrief of the learning sequence includes analysis and discussion of the design elements connecting learning not only to the EP&Cs but also to the three dimensions of CA NGSS, the needs of diverse learners, and the CA Standards for English and Language Arts and Literacy, English Language Development, and Mathematics Standards as appropriate.

### K-8 | ADMINISTRATORS

#### Introduction to Observation Tool and Debrief

K-8 Administrators will be introduced to a classroom observation tool to use as they observe a grade span lesson. In the afternoon, they will debrief what they noticed and discuss how they can instructionally support their teachers. High School Administrators will participate in the High School Summit to better understand instructional shifts and to learn from those high schools that are successfully integrating NGSS and Environmental Literacy for all students.

### 9-12 | EDUCATORS AND ADMINISTRATORS

#### High School Summit

Environmental Literacy is an integral part of addressing the NGSS in high school science instruction. This day-long session aims to provide an example of how the EP&Cs have been intentionally included into the curriculum for the Chemistry in the Earth System course. The sample lesson has a chemistry focus, but can serve as a model for other Life Science and Physical Science courses being offered in California. In addition, we will have a panel discussion, Q&A, and time to work in subject specific collaborative groups to think about how the EP&Cs can be addressed in your subject area.

## DAY 2

### Opening: Classroom Showcase

Inspiration from classrooms across California showcase the power of connecting science with environmental learning. When classroom instruction utilizes locally relevant environmentally focused phenomena, the NGSS vision of *all standards all students* becomes reality. Participants will debrief the potential for increases in student engagement, academic achievement, equitable access to science, and opportunities to make science authentically and culturally relevant.

## MORNING SESSIONS

### K-12 | EDUCATORS AND ADMINISTRATORS

#### Making Phenomena Local

Phenomena-based instruction is a primary feature of the NGSS classroom. In this session, participants will identify examples of local, relevant environmental phenomena to support student learning.

### K-12 | EDUCATORS AND ADMINISTRATORS

#### Community-Based Partners

Fostering student engagement in investigations of their communities supports one of the key instructional shifts called for by NGSS and the new Science Framework—science that is relevant to local communities and student interests. Participants will actively engage with local organizations to discuss and examine ideas for collaboration as thought partners, in providing students access to three-dimensional learning experiences, enhancing in-school and out-of-school learning opportunities.

## AFTERNOON SESSIONS

### K-12 | EDUCATORS

#### Planning from Phenomena to Action

Use a local, environmental phenomena as a lens to develop a learning sequence with a focus on the CA EP&Cs. Using a local environmental phenomenon, participants will learn a process to develop a student action centered SE.

### K-12 | ADMINISTRATORS

#### Supporting CA NGSS and Environmental Literacy

Administrators will discuss their visions for global citizenry, how to use leverage points in the system, e.g., CAST, dashboard, LCAP and other resources to begin planning action steps toward that vision.

Presented by the California County Superintendents Educational Services Association/County Offices of Education, K-12 Alliance @WestEd, California Science Project, and the California Science Teachers Association.



CISC  
Curriculum and Instruction  
Steering Committee



# Informal and Nonformal Institutions



## **CA EDUCATION AND THE ENVIRONMENTAL EDUCATION INITIATIVE SPRING NEWSLETTER**

<https://bit.ly/2lmwqT4>

Hooray for springtime! The days are longer, the weather is warmer, and plants are starting to bloom!

Spring is a great time of year to make plans for bringing environment-based learning into your classroom. The EEI Curriculum can help you increase your student's environmental literacy while supporting traditional academic subjects. If you teach science, we encourage you to explore the science units beyond the grades you teach. With the Next Generation Science Standards, quite a bit of the content has shifted to different grade levels. Check out our [EEI/NGSS correlation guides](#) and a [performance expectation spreadsheet to help you](#) identify which EEI units support specific performance expectations.

Happy Spring!

The EEI Team

## **QUE-SKY SPACE**

<https://oue-skyspace.com/>

## **AUTRY MUSEUM OF THE AMERICAN WEST**

<https://theautry.org/education>

## **LOS ANGELES MARITIME INSTITUTE**

<https://lamitopsail.org>

## **CABRILLO MARINE AQUARIUM TEACHER WORKSHOP**

<http://www.cabrillomarineaquarium.org/education/programs-school.asp>

**Teachers!** Want to teach your students about our marine environment? Cabrillo Marine Aquarium offers numerous programs and classes designed to share the wonders of our local ocean, from guided Aquarium tours, to Ocean Outreach programs that bring marine life right into your classroom, to naturalist-led whale watching programs.

# Informal and Nonformal Institutions



## LOS ANGELES COUNTY ARBORETUM AND BOTANIC GARDENS – TOURS AVAILABLE

<http://www.arboretum.org/learn/teachers-schools/>

### **Online school tour reservations now available.**

More than 10,000 students a year enjoy our free school tours that focus on Plants and Early California History. Now, for the first time, teachers and administrators can book tours online any time, day or night, seven days a week.

FREE programs are also available for schools and classrooms. Bus Grant available on first come, first serve basis. Click on the link for more information and programs!

## MOBILE MUSEUM OPENS REGISTRATION

<http://www.nhm.org/site/for-teachers/mobile-museum>

**Requests are currently open to LAUSD schools for January 2017 to June 2017.**

The Natural History Mobile Museum program is now open for interested schools. **This grant funded program is FREE to LAUSD schools and only serves LAUSD schools.** Please note there is a two-year wait period between visits to school sites

## ENVIRONMENTAL NATURE CENTER

<http://encenter.org/visit-us/programs/school-programs/standards/>

Resources for teachers and environmental educators.

## LOS ANGELES ZOO

<http://www.lazoo.org/education>

## DISCOVERY CUBE LOS ANGELES

<https://www.discoverycube.org/education/>

## NATURAL HISTORY MUSEUM LOS ANGELES

<https://nhm.org/site/for-teachers>

## THINK WATERSHED

<http://www.thinkwatershed.org/>

THINK WATERSHED A hands-on watershed education project

## SEA GRANT

<http://bit.ly/1NFbYsn>

Marine science resources for teachers, students and families





### **BETWEEN 2 NUMBERS**

[www.between2numbers.com](http://www.between2numbers.com)

### **GRAPHING STORIES**

[www.graphingstories.com](http://www.graphingstories.com)

### **JUMP MATH**

[www.jumpmath.org/cms/](http://www.jumpmath.org/cms/)

JUMP Math believes that all children can be led to think mathematically, and that with even a modest amount of attention, every child will flourish. By demonstrating that even children who are failing math or who are labeled as slow learners can excel at math, we hope to dispel the myths that currently prevail.

### **LAUSD EDUCATION SERVICE CENTER WEST COMMON CORE MATH RESOURCES**

<https://www.symbaloo.com/embed/commoncoremathteachers>

LAUSD ESC West created a site for math secondary and elementary resources. Resources include lessons, websites, etc. Accessible to all.

### **THE A+ STUDENT'S GUIDE TO MATH**

<http://www.whoishostingthis.com/resources/math-student-resource/>

A resource for students in mathematics.

### **Challenge Math Online**

<http://www.noetic-learning.com/gifted/>

An online problem-solving program designed for the gifted students.

### **Math Adoption Toolkit Archived Webinar**

<http://www.lacoe.edu/Home/Videos/PlayVideo/tabid/202/Videoid/294/Default.aspx>

Video webinar to help you with the Math Adoption Toolkit

### **Math Adoption Toolkit**

<http://tinyurl.com/LACOE-Math-Toolkit>

Templates and materials that will help inform your textbook adoption process.

### **Common Core Standards for Math Practice Translations**

<http://www.lacoe.edu/CurriculumInstruction/NewsAnnouncements/tabid/173/ID/290/Common-Core-Standards-for-Math-Practices.aspx>

CCSS Math Standards for Math Practice translated into Armenian, Chinese, Korean, Spanish and Tagalog.

### **Joint Message from California's Higher Education Leaders**

<http://www.cde.ca.gov/be/pn/nr/yr14sberel04.asp>

Shared support for Common Core standards in a letter to the State Board of Education.



**WOULD YOU RATHER MATH**

[www.wouldyourathermath.com](http://www.wouldyourathermath.com)

**ESTIMATION 180**

[www.estimate180.com](http://www.estimate180.com)

**OPEN MIDDLE**

[www.openmiddle.com](http://www.openmiddle.com)

**CA. MATH PLACEMENT ARCHIVED WEBINAR**

<https://connect.lacoe.edu/p7bddj3r55a/>

Archived Webinar from March 1, 2016. Designed to present highlights of the CA Math Placement Policy Act of 2015, including next steps.

**CA. MATH PLACEMENT ACT OF 2015 GUIDE**

<https://drive.google.com/file/d/0B3IJQL542s2ecU1FZDNlbGxRbGc/view?pref=2&pli=1>

2-page infographic tool to help you design your board approved placement policy.

**EXECUTIVE SUMMARY OF THE CA. MATH FRAMEWORK**

[http://www.scoe.net/castandards/Documents/summary\\_math\\_framework.pdf](http://www.scoe.net/castandards/Documents/summary_math_framework.pdf)

The executive summary highlights essential information and guidance in the CA Mathematics Framework and is intended to introduce the reader to the wealth of information and support for teachers, administrators, and parents/guardians.

**State Board Approved Math Adoption List (2014)**

<http://www.cde.ca.gov/ci/ma/im/sbeadopted2014mathprgms.asp>

31 Programs have officially been recommended to the State Board of Education, with adoption effective January 15, 2014.

**Common Core Mathematics Standards**

<http://www.cde.ca.gov/be/st/ss/documents/ccsmathstandarداug2013.pdf>

CCSS Math Standards Publication version with February 2014 Corrections.

**Common Core Parent Resources for School Districts**

<http://www.lacoe.edu/CurriculumInstruction/NewsAnnouncements/tabid/173/ID/297/Parent-Resources-for-School-Districts.aspx>

Parent Handbook for MS, HS Traditional, HS Integrated, and FAQ.



# JPL Educator Resource Center

The Jet Propulsion Laboratory Education Office Educator Resource Center provides instructional materials to educators grades pre-K through 12. Content areas include the solar system, Earth science, aeronautics, astronomy and more. Single copies are available by written request, email, phone call or by visiting JPL and are free of charge. Visit the JPL ERC website for additional information: <http://www.jpl.nasa.gov/edu/educator-resource-center>

ERC Contact Information:  
[paula.s.partida@jpl.nasa.gov](mailto:paula.s.partida@jpl.nasa.gov)  
(818) 393-5917

JPL Education Office  
Mail Stop 180-109  
4800 Oak Grove Drive  
Pasadena, CA 91101

Days of Operation: Monday through Thursday and alternate Fridays.  
In-person visits are by appointment only; no walk-ups, please.

## Educator Professional Development

The JPL ERC and the NASA Educator Professional Development Collaborative provide workshops at JPL and at school sites. Professional development activities are aligned with the Next Generation Science Standards and are free of charge. For the schedule of JPL activities, please visit: <http://www.jpl.nasa.gov/edu/teach/workshops>

To arrange a school site staff training or participate in a webinar, visit:  
<http://www.txstate-epdc.net/events>

Sign up for JPL news and education events: <http://www.jpl.nasa.gov/signup>



Jet Propulsion Laboratory  
California Institute of Technology

[www.nasa.gov](http://www.nasa.gov)





# Online Educational Resources!

## From NASA's Jet Propulsion Laboratory!

### JPL Education Website (All Grades)!

<http://www.jpl.nasa.gov/edu/>!

This web site is your main source of information specifically for educators, students and parents. The site is organized into the categories: Intern, Learn, Teach, News, and Events. There is also a search feature. You can enter the web addresses listed below or use the search to find the featured service. Some of the highlights are featured below but there is much more to offer."

### Engineering in the Classroom (All grades)!

<http://www.jpl.nasa.gov/edu/teach/resources/engineering-in-the-classroom.php>!

The Next Generation Science Standards prominently feature engineering. These videos and lessons show how engineering works in practice at JPL and how educators can relate real-world engineering to their students."

### "Teachable Moments" (All grades)!

<http://www.jpl.nasa.gov/edu/news/column/teachable-moments/>!

These articles feature items in the news with suggested lessons to aid students in understanding the relevance of current events."

### How to Do a Science Fair Project (3-12)!

<http://www.jpl.nasa.gov/edu/teach/activity/how-to-do-a-science-fair-project/>!

This series of short videos guides students through the steps of developing a quality science fair project from developing a research question through communicating the results."

### Social Media (All Grades)!

<http://www.jpl.nasa.gov/social/>!

JPL is active in social media on a variety of platforms. Pick your favorite."

### JPL Tours (All Grades)!

<http://www.jpl.nasa.gov/events/tours/>!

Facility tours are conducted by the JPL Public Services Office and are free of charge. Reservations are required and demand is high."

### NASA Digital Learning Network (All grades)!

<http://dl.nasa.gov/>!

The DLN provides two-way interactive video conferencing programs on NASA topics."

### Space Place (Elementary)!

<http://spaceplace.nasa.gov/>!

This is full of activities for younger students from pre-school through middle elementary school."

### Build Your Own Space Mission (Elementary)!

<http://www.jpl.nasa.gov/education/BuildMissionGame.cfm>!

For younger students, this is an online game that gives children a chance to design and launch a virtual spacecraft to accomplish science objectives on another planet or moon."

### Career Guidance: "Find Your Place" at JPL (High School)!

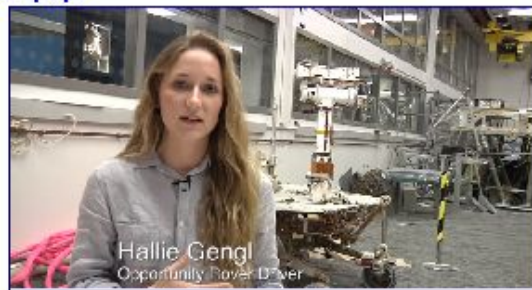
<http://findyourplace.jpl.nasa.gov/>!

For students considering careers and possible college majors, this site identifies work done at JPL and the typical university degrees in those fields. Internship information (typically university) can be found at <http://www.jpl.nasa.gov/edu/intern/>!

### Jet Propulsion Laboratory!

California Institute of Technology"

[www.nasa.gov/](http://www.nasa.gov/)



### Sociable Science!





# Science Resources

## EXPLORATORIUM'S TEACHER INSTITUTE VIDEOS:

<https://bit.ly/2SzMSlr>

## CHEM REVIEW MODULES

<http://chemreview.net>

## US FISH AND WILDLIFE SERVICES

<http://conservation-connect.com>

## US DEPARTMENT OF EDUCATION

<https://bit.ly/2zx6AYA>

## US DEPARTMENT OF ENERGY

<http://bit.ly/2ITqumy>

## ENERGY ELF

<https://bit.ly/2OEayX8> (Requires Adobe Flash)

<https://bit.ly/2RvKR9y> (Text Version)

## US ENERGY INFORMATION ADMINISTRATION

[www.eia.gov/kids](http://www.eia.gov/kids)

## US DEPARTMENT OF AGRICULTURE

<https://bit.ly/2E1rxOI>

## NATIONAL INSTITUTES OF HEALTH

<https://bit.ly/1PfyPrt>

2019 National Drug and Alcohol Facts Week. The website has resources to help educators plan and promote events.

## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

- METEOR SHOWERS 101

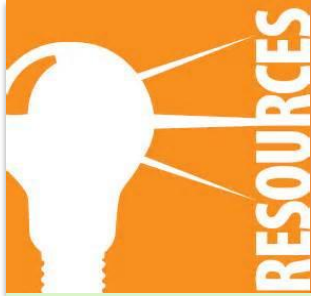
<https://go.nasa.gov/2pKpT8g>

- So You Want to Go to Mars

<https://bit.ly/2OLYblk>

- SPACECRAFT AR APP

<https://go.nasa.gov/2BZn7FE>



# Science Resources

## **LEARNING THROUGH PERFORMANCE CURRICULUM**

from Stanford SCALE Project

<https://stanford.io/2rguNwG>

## **PHENOMENA RESOURCES FROM NASA WAVELENGTH**

The NASA Wavelength team has been creating lists of resources that supports NGSS and relate to science phenomena in the news. 3 phenomena-based resource lists have been created so far!

- NATURAL HAZARD SEQUENCE: DROUGHT TO WILDFIRE

<http://bit.ly/2ydl8d3>

- HAWAII HOTSPOT: RESOURCES TO SUPPORT NGSS PHENOMENA

<http://bit.ly/2A7gWhv>

- HUMANITY'S CLOSEST LOOK AT THE SUN: THE LAUNCH OF THE PARKER SOLAR PROBE

<http://bit.ly/2CEiLES>

## **US NATIONAL ARCHIVES**

UNCLE SAM AND THE AMERICAN DIET

<https://bit.ly/2Nszmwr>

## **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)**

UNDERSTANDING MARINE DEBRIS

<https://bit.ly/2NtflpG>

## **NATIONAL PARK SERVICE**

<https://bit.ly/2y8OLND>

## **National Institute of Health**

Infectious Disease Lessons

<https://bit.ly/2QdDKoJ>

## **US ENVIRONMENTAL PROTECTION AGENCY**

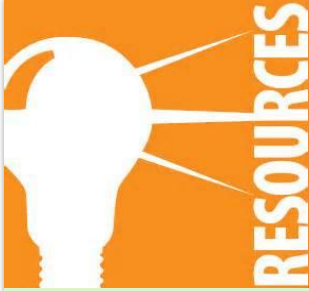
America's Wetlands

<http://bit.ly/2KKqdPW>

## **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)**

Rasing the Bar: The Oyster Bar!

[https://youtu.be/lQnqS\\_4V4ec](https://youtu.be/lQnqS_4V4ec)



# Science Resources

## **WHIRLIGIG AEROSPACE CHALLENGE**

<https://edut.to/2C3a4Bg>

## **SIMULATED WATER MANAGEMENT MODEL**

<http://www.spk.usace.army.mil/Missions/FloodRiskAwareness/EducationResources.aspx>

Is there any interest in the STEM education community for a teacher in-service day workshop, or some other gathering, to present the computer model and water management games we developed last year, known affectionately as “SWMM” (Simulated Water Management Model).

This effort was a collaboration between the U.S. Army Corps of Engineers and the California Department of Water Resources, incorporating feedback.

## **CALIFORNIA GEOGRAPHIC ALLIANCE AND NATIONAL GEOGRAPHIC - California’s Water Crisis**

National Geographic’s online article “5 Things You Should Know about California’s Water Crisis” at

<http://news.nationalgeographic.com/2015/04/150406-california-drought-snowpack-map-water-science/>

includes sage information about the drought and an interactive graphic “Draining California” at

<http://www.nationalgeographic.com/west-snow-fail/draining-california/index.html> that will help students understand how snowmelt feeds the Central Valley’s agriculture.

## **Green Schoolyards America**

Green Schoolyards America has put out a new guide of activities that can be done in the school yard. The guide is available online at

<http://www.greenschoolyardsamerica.org/2015-living-schoolyard-month-activity-guide.html>.

## **National Geographic Explorers on a Real-Time Expedition**

I would like to invite you and any interested teacher/student in the county to follow an upcoming National Geographic Expedition in real-time with three National Geographic Explorers as they research and survey the health of the Okavango Delta in Botswana, Africa.

<http://www.intotheokavango.org/>

The Okavango Delta is a UNESCO World Heritage Site and is the world’s largest inland delta. The Expedition takes place between August 17-29 and our Explorers will be sharing their experience and research live through various social media and websites. This is an exciting chance for educators and students to interact with our Explorers in real-time from across the world while they are actively researching and studying this sensitive habitat.

## **METROPOLITAN WATER DISTRICT**

<http://www.mwdh2o.com/inthecommunity/education-programs/Pages/default.aspx>

Water Education Programs for teachers. Grades K-5, 6-8, 9-12. Opportunity for student challenges, too!



# Science Resources

## **NGSS Awareness Website**

<https://ngss.sdcoe.net>

San Diego County Office of Education's resources shared by all the county offices of education.

## **Next Generation Science Standards Website**

<http://www.nextgenscience.org/>

The definitive guide to your NGSS needs.

## **NGSS CDE Website**

<http://www.cde.ca.gov/pd/ca/sc/ngssintrod.asp>

California Department of Education's links to NGSS informational materials.

## **NGSS@NSTA**

<http://ngss.nsta.org/>

Resources to assist you as you explore NGSS.

## **CONCORD CONSORTIUM**

<http://concord.org/ngss/>

NGSS K-12 resources and activities organized by practice, core idea, and crosscutting concept.

## **NEXT GENERATION MOLECULAR WORKBENCH**

<http://workbench.concord.org/database/>

Molecular Workbench (MW) is a powerful, award-winning software that provides visual, interactive computational experiments for teaching and learning science. Created by the Concord Consortium.

## **PHET INTERACTIVE SIMULATIONS**

<https://phet.colorado.edu/en/simulations/category/new>

NGSS resources, simulations, and activities for K-12 classrooms. (Web Link)

## **Earth Science Journal for Kids**

<http://sciencejournalforkids.org>

Middle and high school level teachers can access an online journal of cutting-edge Earth and environmental science research adapted for students. Each article features a summary of the research, an index of key terms, new vocabulary for students, and resources to help integrate the content into classrooms.



# Science Resources

## **Endangered Species Day Toolkit**

<http://www.endangered.org/campaigns/endangered-species-day/>

May 20 is Endangered Species Day. Prepare for the event with a toolkit and other resources for K-12 classrooms available at the link above. The toolkit provides planning tips, fliers, activity sheets and more. Visit the website's Teacher Resource Center for a lesson plan adaptable for elementary to high school levels.

## **I'm a Scientist USA!**

<http://imascientist.us/teachers>

In this online American Idol-style competition, students will talk online with scientists over a two-week period and vote for which scientist they think should win. Targeted for students ages 9-18, but most commonly used with middle school students, the website offers a Teacher Pack with lesson plans and a science debate kit to help students

## **Solar Dynamics Observatory Project Suite**

<http://goo.gl/2hCugb>

This comprehensive, NGSS-supported curriculum for middle school students presents an interactive real-world exploration of solar science and space weather. Through four learning modules, students explore the structure of the Sun, how it is studied via electromagnetism and significance of solar activity and its effects on Earth. Finally students will collaborate to produce a 3D Solar Exhibit. These modules can be completed in succession or as a series of individual activities.

## **Science Snacks**

<http://www.exploratorium.edu/snacks>

Developed by the Exploratorium museum in San Francisco, California, this website provides more than 150 scientific activities targeted for students grades 6-12. Science Snacks help teachers replicate in the classroom the concepts and natural phenomena explored in the museum's exhibits. Science Snacks support the NGSS guidelines and teachers can search for snacks by discipline such as Biology, Chemistry, Perception, Nature and so on, or by category.

## **Elementary Adventures in Chemistry**

[www.acs.org/kids](http://www.acs.org/kids)

The American Chemical Society developed this site to give elementary students a safe place to explore chemistry on their own terms. On this site, you can access interactive animations and other chemistry resources for students in grades K-5. Animations highlight the chemistry behind subjects such as ice cream, braces, glue, flames and more.



# Science Resources

## **The National Academic Press**

<http://www.nap.edu/>

The National Academies Press (NAP) was created by the National Academy of Sciences to publish the reports of the National Academies of Sciences, Engineering and Medicine, operating under a charter granted by the Congress of the United States. The NAP publishes more than 200 books a year on a wide range of topics in science, engineering, and medicine, providing authoritative information on important matters in science and health policy.

The NAP offers more than 5000 titles in PDF format, and almost all of these PDFs can be downloaded for free. Members may also purchase physical or ebook copies of available books at a discount. Additionally, the NAP has a wealth of free resources for teaching about Ocean Science, the Arctic, Infectious Diseases, Energy, Engineering, Evolution, and more. These booklets, videos, and other materials will enhance curriculum and communicate the excitement and importance of science.

Available Books Include:

### **A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas**

<http://www.nap.edu/catalog/13165/a-framework-for-k-12-science-education-practices-crosscutting-concepts>

### **Developing Assessments for the Next Generation Science Standards**

<http://www.nap.edu/catalog/18409/developing-assessments-for-the-next-generation-science-standards>

### **Guide to Implementing the Next Generation Science Standards**

<http://www.nap.edu/catalog/18802/guide-to-implementing-the-next-generation-science-standards>

### **Next Generation Science Standards: For States, By States**

<http://www.nap.edu/catalog/18290/next-generation-science-standards-for-states-by-states>

### **Science Teachers Learning: Enhancing Opportunities, Creating Supportive Contexts**

<http://www.nap.edu/catalog/21836/science-teachers-learning-enhancing-opportunities-creating-supportive-contexts>



# Science Resources

## **Science News in High Schools: A Biweekly STEM Publication**

**New sign-ups must sponsor themselves (\$500) or be waitlisted for sponsorship**

<https://goo.gl/FHKeWy>

Society for Science & the Public's Science News in High Schools program brings *Science News* magazine to high schools across the U.S. and worldwide. The program offers teachers and students access to the latest in-depth reporting on science topics — transforming how students and educators interact with science in the classroom by providing them with real-world examples, information, and inspiration.

*Science News*, published since 1922, provides an approachable overview from all fields and applications of STEM. The magazine is written by a staff of experienced science journalists, many with Ph.Ds in scientific disciplines.

Learn more at <https://www.societyforscience.org/science-news-high-schools>.

## **California Science Teachers Association Priority features for Instructional Materials:**

<http://cascience.org/application/files/5115/1796/5779/Recommendations-NGSS-Instructional-Materials-White-Paper.pdf>

## **National Science Teachers Association: Instructional Materials Lessons Learned**

<http://nstacommunities.org/blog/2018/02/23/choosing-instructional-materials-lessons-learned/>

## **US DEPARTMENT OF AGRICULTURE**

Team Nutrition Resources

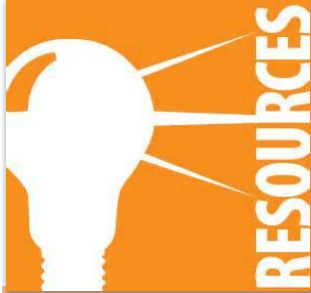
<https://bit.ly/2sjf3ld>

## **NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

The Invisible Network

<https://go.nasa.gov/2ykTtb1>





# STEM Resources

## KOOV

KOOV is a robotics and coding educational kit made up of blocks, sensors, motors, LEDs, and a companion app. Perfect for the classroom, KOOV is a comprehensive solution for STEAM education that teaches children core concepts about design, coding and robotics.

### KOOV EDUCATOR KIT

For the Classroom:

- 50+ hours of comprehensive educational courses included focused on coding, robotics, engineering, and design.
- NGSS, CCSS and leading standards focus using downloadable lesson plans.
- Five day KOOV curriculum summer camp included.
- Class management software included in the KOOV app as well as individual student account logins.
- Application compatible with Chromebook, iPad, Windows, and Mac operating systems.
- Step-by-step teachers guides and student progress reports.

Features:

- Build using colorful KOOV blocks featuring a “hands on” building approach for students.
- Add sensors, motors, LEDs, and much more for almost limitless robotic combinations.
- Make the robot come alive by coding using the included KOOV application.
- 43 pre-created, pre-coded ‘Robot Recipes’ designed by Sony’s top engineers.
- Students share robot creations with KOOV users from around the world.
- Perfect for students ages 8 and up.

Video content:

<https://spaces.hightail.com/space/NLZF3pMJzQ> KOOV videos using password koov2018 once you login, then click download all videos and save to your computer.

[https://www.youtube.com/results?search\\_query=koov](https://www.youtube.com/results?search_query=koov)

Blog posts:

<https://catlintucker.com/2018/06/koov-robotics-and-coding/>

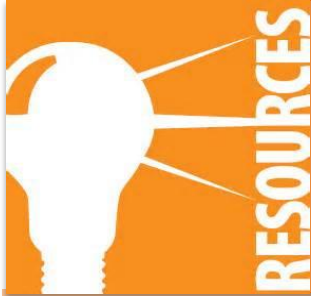
[http://blogs.edweek.org/edweek/education\\_futures/2018/04/what\\_is\\_the\\_future\\_of\\_stem\\_education.html](http://blogs.edweek.org/edweek/education_futures/2018/04/what_is_the_future_of_stem_education.html)

<https://thehomeschoolscientist.com/teach-stem-skills-with-the-koov-robotics-kit/>

<https://www.teachthought.com/technology/koov-robotics-an-all-in-one-solution-for-teaching-robotics-in-the-classroom/>

<http://www.educationworld.com/node/45529>

<https://www.edtechupdate.com/edition/daily-equity-of-access-elementary-2018-05-16/>



# STEM Resources

## **CODERZ BY INTELITEK**

<https://gocoderz.com/>

CoderZ is an online learning environment where students worldwide learn STEM by coding virtual 3D robots.

## **SHEHEROES**

<http://www.sheheroes.org/>

SheHeroes is a 501©3 nonprofit whose mission is to inspire girls ages 8-14 with role models, primarily in STEM careers. Like Sally Ride, we believe “you can’t be what you can’t see.” We create video profiles of successful women, many in STEM fields, to encourage girls to dream big for their futures.

SheHeroes counteracts the barriers preventing girls from imagining their futures in STEM careers. Our videos tell heartfelt, personal stories of women from their career standpoint. We present their dreams, challenges, and triumphs so that girls can see the tangible reality, and fulfillment, of pursuing careers in STEM fields.

Each video has a discussion guide beneath it. Our materials are free and designed for supplemental or enrichment use by educators, parents, after school programs, and career/guidance counselors.

## **GET STARTED WITH CODE TEACHER GUIDES (FROM APPLE)**

[http://education-static.apple.com/ecc-get-started-with-code-2-20170421/pdf/Get\\_Started\\_with\\_Code\\_Curriculum\\_Guide.pdf](http://education-static.apple.com/ecc-get-started-with-code-2-20170421/pdf/Get_Started_with_Code_Curriculum_Guide.pdf)

## **CODING RESOURCES FOR MIDDLE SCHOOLS AND ABOVE ON IPADS (FROM APPLE)**

[https://images.apple.com/education/docs/Swift\\_Playgrounds\\_Curriculum\\_Guide.pdf](https://images.apple.com/education/docs/Swift_Playgrounds_Curriculum_Guide.pdf)

## **APP DEVELOPMENT FOR HIGH SCHOOLS (FROM APPLE)**

[https://images.apple.com/education/docs/App\\_Development\\_with\\_Swift\\_Curriculum\\_Guide.pdf](https://images.apple.com/education/docs/App_Development_with_Swift_Curriculum_Guide.pdf)

For more information about coding programs from apple, contact: Sandy Brenner 323-932-1074

([www.apple.com/education](http://www.apple.com/education))



#### **LINK ENGINEERING**

<http://linkengineering.org/>

The National Academy of Engineering launched its new website today to support implementation of pre K-12 engineering.

#### **LOS ANGELES ECONOMIC DEVELOPMENT CORPORATION STEM RESOURCES**

<https://goo.gl/c7YKbh>

In collaboration with the LA STEM Hub, here is a listing of FREE STEM resources to be used by educators, students, and their families.

#### **SPARK 101**

<http://www.spark101.org/>

An online tool that brings industry challenges and professional perspectives into the classroom.

#### **BARBOZA SPACE CENTER**

[www.BarbozaSpaceCenter.com](http://www.BarbozaSpaceCenter.com)

The Barboza Space Center has a new site! Director Bob Barboza is currently working on a project created by the widow of the late Steve Jobs with regard to rethinking the American high school. His goal is to create a training program for high school students that want to work for NASA, NOAA, SpaceX, Boeing and other aerospace companies.

#### **TEACHING AND LEARNING UNDER THE NEXT GENERATION SCIENCE STANDARDS**

<http://goo.gl/geHwpr>

This is a new briefing paper in the STEM Smart Briefs series. It provides an overview of several NGSS-aligned projects in the areas of curriculum, instruction, assessment, and professional development.

#### **A SYSTEM OF ASSESSMENT FOR NGSS IN CALIFORNIA: A DISCUSSION DOCUMENT**

<https://goo.gl/KQRQsY>

Prepared by the Stanford Next Generation Science Standards Assessment Project Team (SNAP), this 59-page paper takes a look at the changes incurred by the NGSS and the implications they have upon teaching and assessing based upon the new science standards.

#### **NONSCRIPTUM**

<http://www.nonscriptum.com/classes>

Nonscriptum LLC provides consulting and training on maker technologies, including 3D printing, open-source electronics, and fashion tech. Our courses are described at the above link. Nonscriptum's principals, Joan Horvath and Rich Cameron, have also written six books for Apress, including two books of 3D printable science project. They are available for onsite consulting and training. Contact: [joan@nonscriptum.com](mailto:joan@nonscriptum.com).



# STEM Resources

## **PYTHONROOM**

<https://pythonroom.com/>

Pythonroom is the industry's first autonomous coding education management system. It is the perfect next step after drag and drop coding environments, as it introduces students to computer science through scripting, as is done in industry.

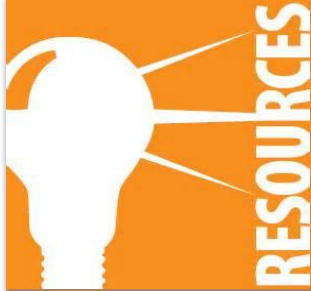
The platform contains over 130 lessons and problems, a classroom management dashboard, and real-time analytics on student performance. Features such as automatic grading, detailed error messages, and a live feed of student activity give teachers the flexibility to focus on facilitating students learning rather than exerting effort on classroom management and curriculum delivery.

Pythonroom's curriculum is designed to teach students problem-solving and algorithmic thinking. Our lessons are unique, easy to understand, and dynamically ordered to enhance retention. Students learn by mastering basic instructions to solve simple problems, and then work their way into more challenging concepts and larger programs. We have refined this curriculum over many years from the feedback of thousands of teachers and students, so we are confident that Pythonroom is the most effective way to introduce computer science to young students.

Teachers do not have to solely rely on Pythonroom's curriculum, however. The platform also allows instructors to deliver their own curriculum through innovative features such as a classroom projector and file-sharing. Whether you are an experienced Python instructor or a first-time teacher, Pythonroom will make your teaching experience smoother and easier to manage.

Visit <https://pythonroom.com> to get started today, or for more information visit <http://hulaloop.io>.

You can also contact the team directly at [hello@hulaloop.io](mailto:hello@hulaloop.io).



# STEM Resources

## **NASA'S JOURNEY TO MARS K12**

<https://goo.gl/DqhLsP>

## **JUNIOR PALEONTOLOGY ACTIVITY BOOK**

<https://goo.gl/0Qne5q>

## **CLIMATE CHANGE IMPACTS WEBSITE**

<https://goo.gl/SEY2hX>

## **APPLE, INC. - BRING CODING INTO YOUR SCHOOL**

Apple thinks everyone should have the opportunity to create something that can change the world. So we've designed a new approach to coding that lets anyone learn, write, and teach it. We made a coding language for everyone called Swift, which is easy to use and even some of the world's most popular apps are created in Swift.

For first-time coders, we have Swift Playgrounds, a new iPad app that makes getting started fun and interactive and will be available for free when iOS 10 is released this Fall. Using real code, you'll solve puzzles and meet characters you can control with just a tap.

We also have ideas for lessons and group activities that work in the classroom or in after-school programs. You'll also find presentations, tips, and ways to track your students' progress. You can find these free resources here:

### **Swift Playground Teachers Guide**

<https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?id=1118578018&mt=11&v0=www-us-education-everyone-can-code-book-swift-playgrounds-teacher-guide>

### **App Development with Swift Teachers Guide**

<https://itunes.apple.com/WebObjects/MZStore.woa/wa/viewBook?id=1118577558&mt=11&v0=www-us-education-everyone-can-code-book-app-development-swift-teacher-guide>

### **Class Materials for Teaching Swift**

<https://swifteducation.github.io>

If you have any questions about how you can bring coding to your school using Swift and Swift Playgrounds, feel free to reach out to Edgar Espina at [eespina@apple.com](mailto:eespina@apple.com).



# Other Resources

## **HOMEWORK HOTLINE**

[www.askhmc.org](http://www.askhmc.org)

The Homework Hotline offers free, over-the-phone tutoring in math and science for students in grades 4-12. There is no charge to use the service, and it is open five nights per week (Sunday through Thursday) from 6:00 pm to 9:00 pm PST. Our tutors are highly qualified Harvey Mudd students selected for their technical expertise and communication skills. All tutors complete ongoing tutor training and are ready and willing to take your questions!

## **CALIFORNIA PTA**

<http://capta.org/resource/pta-connects/>

To positively impact the lives of children and families.

## **RECOMMENDED CALIFORNIA LITERATURE LIST**

<http://www.cde.ca.gov/ci/cr/rl/>

A searchable database of books for children and teens which helps students, teachers, and families find books that entertain, inform, and explore new ideas and experiences.

## **NEA FOUNDATION ONLINE COURSES**

<http://www.neafoundation.org/pages/courses>

The NEA Foundation courses are intended to develop collaborative skills and content knowledge. The courses promote union-district collaboration as a tool for systems change and were developed by field experts, using a rich selection of resources. Use the course content in whatever way best meets your unique needs – a whole course, a single session, or just an activity.



**DO YOU HAVE RESOURCES TO  
SHARE? SEND IT TO ME AND  
IT WILL BE ADDED!**

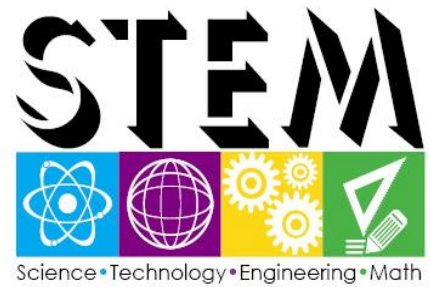
# LACOE's STEM Unit

The Los Angeles County Office of Education's STEM Unit is here to provide you with services, professional development, resources and updates regarding:

- Common Core Math
- Next Generation Science Standards
- STEM and STEAM initiatives

The STEM Unit also provides:

- Consulting services to Schools and Districts; and
- LA County Mathematics Field Day



STEM Notes

June, 2019



**Los Angeles County  
Office of Education**

Serving Students ■ Supporting Communities  
Leading Educators

9300 Imperial Highway  
Downey CA 90242

For more information:

Anthony Quan

Coordinator III, STEM

[Quan\\_Anthony@lacoed.edu](mailto:Quan_Anthony@lacoed.edu)

562-922-6896

Or

Spencer Davis

STEM Unit Secretary

[Davis\\_Spencer@lacoed.edu](mailto:Davis_Spencer@lacoed.edu)

562-401-5486