EQuIP Rubric for Science Released!
The Educators Evaluating the Quality of Instructional Products (EQuIP) Rubric for Lessons & Units: Science was released today. The Rubric provides criteria with respect to the NGSS.

Resources
CSDE’s science curriculum site.
More on Standards at: http://www.nextgenscience.org/

Visit the NGSS@NSTA Hub:
The NGSS@NSTA Hub now offers a dynamic version of the Next Generation Science Standards. Standards can be accessed via a simple matrix, then displayed in a clear and easily understood format. Accompanying each standard are student performance expectations, and the corresponding science and engineering practices, disciplinary core ideas, and crosscutting concepts. The hub also provides key connections to the Common Core State Standards in literacy and mathematics.

IMPORTANT ANNOUNCEMENT!
Please note my change of email address above in the heading

October 23, 2014
9:00 am – 3:00 pm
Keney Park, Park House
183 Windsor Ave
Hartford, CT

Celebrate Food Day All Year!
Project Food, Land and People introduced Eat Well Be Well, a collection of educational material, to help students grades PreK-12 gain understanding about healthy eating. Starting with our natural resources and ending at the table, this workshop will help educators integrate food, science, MyPlate and MyPyramid eating guidelines into the curriculum. Learn about additional resources to help increase knowledge of local agriculture and food issues, as well as those that support the classroom.

Workshop will provide you with:

- CD of educational activities
- Extension activities to help investigate Food Environments
- Options for you to extend the use of school gardens to the curriculum
- Ways to expand nutrition and food diversity for students.
- Farm to School Updates
- Common Core and Science Correlations

Workshop fee: 40.00/person. Click here for registration link.

Please bring your own lunch, try using CT Grown Products. Coffee, tea, and light refreshments will be provided.
Courses include: The Brain, Climate Change, The Solar System, Evolution and more. The courses are online-only and are led by both an experienced classroom teacher and a Ph.D. research scientist.

Sign up today and receive $50 off your registration cost! Use code SCIENCEMATTERS.

For more information about the program, check out Seminars on Science at our website: amnh.org/learn.

If you have any questions, send us an email at learn@amnh.org, or call us at 800-649-6715.

The Seminars on Science Team

Fulbright Distinguished Awards in Teaching Program: deadline November 5
You may be eligible to participate in an international professional development opportunity for 3-6 months through the Fulbright program. This program is sponsored by the US State Department, Bureau of Educational and Cultural Affairs. Eligibility Requirements: www.fulbrightteacherexchange.org

Albert Einstein Distinguished Educator Fellowship Program
November 20
The Albert Einstein Distinguished Educator Fellowship (AEF) Program provides a unique opportunity for accomplished K-12 educators in the fields of science, technology, engineering, and mathematics (STEM) to serve in the national education arena. Fellows spend 11 months working in a Federal agency or U.S. Congressional office, bringing their extensive classroom knowledge and experience to STEM education program and/or education policy efforts. Program applications are due November 20, 2014, and must be submitted through an online application system.

To be eligible, applicants must be U.S. citizens, be a current employed full-time in a U.S. public or private elementary or secondary school or school district, and must have taught full-time in a public or private elementary or secondary school for at least five of the last seven years in a STEM discipline.

The AEF Program is managed by the DOE Office of Science, Office of Workforce Development for Teachers and Scientists, in collaboration with the Triangle Coalition for STEM Education and the Oak Ridge Institute for Science and Education.

Go to the Albert Einstein Distinguished Educator Fellowship Program, for more information, including eligibility requirements, program benefits, application requirements, and access to the online application system. For any questions, please contact the AEF Program.

$1000 SCHOLARSHIPS FOR AMAZON RAINFOREST PD WORKSHOP
Educator Academy in the Amazon Rainforest + Machu Picchu
The July 1-11, 2015 Educator Academy in the Amazon Rainforest of Peru is a cross-curricular professional development workshop for K-12 formal and informal educators to learn and use:

21st Century Instruction: 5E Lesson Design ~ Inquiry-based Exploration ~ STEM

Inquiry Protocols & Resources: Project Learning Tree ~ Cornell Lab of Ornithology ~ & More!

Global and Cultural Perspectives: Service Learning ~ Sustainability ~ Global Education. Join Al Stenstrup, Project Learning Tree (PLT); Lilly Briggs (Cornell Lab of Ornithology), Christa Dillabaugh, Amazon Rainforest Workshops; and Dr. David Pearson, Wildlife Travellers’ Guide to Peru; and work side-by-side with scientists Dr. Steve Madigosky, Widener University; and Randy Morgan, Curator/Entomologist, Cincinnati Zoo as you:

Participate in citizen science projects and inquiry based field studies on a 1/4-mile Rainforest Canopy Walkway in one of the most biologically diverse environments on the planet.

Spend a day in an Amazon village as you explore the complexities of sustainability and the role of education in creating a sustainable future for Amazon children.

Work with fellow educators to explore strategies for using the Amazon as a vehicle for incorporating STEM education, inquiry-based learning, and sustainability science education into your classroom. PLT Certification, BirdSleuth resources and 50 ASU PD Hours included. Academic Credit and Machu Picchu Extension optional. $1000 scholarship deadline March 1, 2015. Program cost is $1240 + air for scholarship recipients. Space is limited! Register early to secure your spot! Get the details and download a syllabus and scholarship application at:

http://www.amazonworkshops.com/educator-academy.html

Contact christa@amazonworkshops.com or 1-800-431-2624 for more information.
Global Exploration for Educators Organization (GEEO) is a 501(c)3 non-profit organization that runs professional development travel programs designed for teachers.

GEEO is offering the following travel programs for 2015: India/Nepal, Sri Lanka, Bali/Lombok, Italy, Eastern Europe, Greece, Uzbekistan, Vietnam/Cambodia, Thailand/Laos, Belize/Guatemala, Morocco (Winter, Spring and Summer) China, Eastern Turkey, Western Turkey, Zambia/Botswana/Namibia/South Africa, New Zealand, Costa Rica, Peruvian Andes (Summer and Spring), Peruvian Amazon, and The Galapagos Islands. The registration deadline is June 1st, but space is limited and many programs will be full well before the deadline. From now until October 13th, GEEO’s spring and summer programs will be discounted an additional 5%.

Educators have the option to earn graduate school credit and professional development credit while seeing the world. The trips are 8 to 19 days in length and are designed and discounted to be interesting and affordable for teachers. GEEO provides teachers educational materials and the structure to help them bring their experiences into the classroom. The trips are open to all nationalities of K-12 and university educators and administrators, as well as retired educators. Educators are also permitted to bring along a non-educator guest.

Detailed information about each trip, including itineraries, costs, travel dates, and more can be found at www.geeo.org. GEEO can be reached 7 days a week, toll free at 1-877-600-0105 between 9AM-9PM EST.

UPCOMING EVENTS:

New England Air Museum to Hold

Women Take Flight on Sunday, November 2, 2014

– The New England Air Museum will host its tenth annual Women Take Flight event on Sunday, November 2, 2014. The program features extraordinary women who have pioneered new careers for women in aviation and aerospace engineering. Our guests will share their experiences at stations around the Museum one-on-one with Museum visitors, at presentations, and at panel discussions. Impersonators will portray the characters of early aviation pioneers. Discover the opportunities women now have working in the aviation and aerospace industries while seeing examples of their work in the Museum’s collection. This exciting, educational and inspirational program is sponsored by the Petit Family Foundation and presented in cooperation with the Connecticut Chapter of the Ninety-Nines (International Organization of Women Pilots).

Among the twenty women in aviation and aerospace expected are: Nagin Cox, Jet Propulsion Laboratories engineer on the team that developed and operated the Curiosity Rover on Mars; Bee Haydu, a Woman Air Force Service Pilot from World War II who was awarded the Congressional Medal of Honor by President Obama; Patricia Beckman, Commander US Navy (retired), flight test navigator, and first woman qualified as a crewmember in the F-15 and F-18; Lucy Young, Commercial and Navy Fighter Pilot (second woman carrier certified); Terry Vandendolder, American Airlines and Air Force pilot (retired); Martha Parish, FAA Operations Inspector; Team #5 from Classic Air Race 2013; Pratt & Whitney Women’s Council; Women Air Reservists at Westover Air Base, Chicopee MA; Linda Maloney, Naval aviator and author of Military Fly Moms; Pilot with Hurricane Hunters; Stacy Sheard, corporate helicopter pilot for MA Mutual; Trish Margarido, Medic with Life Star; and a U2 pilot.

The New England Air Museum is open from 10:00 a.m. to 5:00 p.m. Seven days a week and is located in Windsor Locks, Conn. adjacent to Bradley International Airport. Take I-91 north or south to CT. exit 40 (Route 20) to Route 75 north. Admission prices: Ages 12 and up $12.00; children 4-11 $6.50; ages 3 and under are free; seniors 65 and up $11.00. For more information, visit www.neam.org or call (860) 623-3305.

The New England Air Museum is the largest aviation museum in New England and is a private, non-profit educational institution that was organized in 1959. Three larger hangars and an outdoor display contain more than 80 aircraft with permanent exhibits that include the oldest surviving aircraft in the U.S. – the 1870 Silas M. Brooks Balloon Basket, as well as an S-39 Amphibian plane – the first aircraft built in Connecticut by aviation pioneer Igor Sikorsky. Featured year-round are many historical aircraft and exhibits including a focus on World War II’s Tuskegee Airmen, and a display about Amelia Earhart alongside a Lockheed Model 10 Electra – the same type of plane flown by the female aviator. The Air Museum is dedicated to preserving and presenting historically significant aircraft and related
artifacts, engaging visitors through high-quality exhibits helping them to understand aviation technology and history and inspiring students through innovative and hands-on educational programs. It is owned and operated by the Connecticut Aeronautical Historical Association and is governed by a volunteer Board of Directors, with four full-time employees, 18 part-time employees, and more than 157 volunteers. The New England Air Museum is located on 36 Perimeter Road (off Route 75) on the North end of the Bradley International Airport airfield in Windsor Locks, Conn. It is open from 10 a.m. to 5 p.m., seven days a week, and features a large gift shop. For more information, www.neam.org or (860) 623-3305 or Facebook at New England Air Museum.

CT SCIENCE SAFETY NETWORK WORKSHOP SERIES:

- October 23 – Hazardous Chemical Management 101 for 7-12 Chemical Hygiene Officers, Science Teachers and Supervisors
- November 13 – OSHA’s Chemical Hygiene Plan: The Path to a Safer Science Lab
- December 11 – Chemical Hygiene Officer Training: Responsibilities and Liabilities!
- February 12 – STEM Safety (new)
- March 5 – Safety in the Arts (new)
- March 19 – Science Safety for Special Education Teachers and Paraprofessionals (new)

FOR INFORMATION, CONTACT: Sara MacSorley, Director of the Green Street Arts Center and Project to Increase Mastery of Mathematics and Science (PIMMS) smacsorley@wesleyan.edu 860-685-7870

Understanding and Using K-12 Science Learning Goals Oct. 20-21 in Washington, DC, AAAS Headquarters: The AAAS Project 2061 team can help you tap into a set of tools, resources, and strategies for meeting the challenges of NGSS implementation. During this two-day workshop you’ll explore NGSS and take a hands-on approach to using the new standards to improve curriculum, instruction, and assessment.

A Science Argumentation rubric has been developed by Mary Lou Smith and her colleagues. If anyone tries it out, they would really like to get some feedback! To get a copy, you can request one by email from Eloise Farmer at eloisef302@gmail.com

BEST PRACTICES IN SUSTAINABILITY EDUCATION, 2014 ANNUAL WORKSHOP PROVIDING FOR OUTDOOR LEARNING SPACES

November 4th 9:00 am – 3:00 pm
Interdistrict Discovery Magnet School
4510 Park Avenue
Bridgeport, CT

Using outdoor spaces for investigation, student stewardship projects, writing, and creativity is growing in popularity. This workshop will help you in planning how to use your schoolyard as an extension of the classroom while expanding your skills in leading outdoor investigations.

Join specialists in exploring the Interdistrict Discovery School grounds using Art through Zoology.

Featured Sessions:
- Looking at Wildlife Habitat Through the Seasons of the Year;
- How can you enhance or restore habitat on your property?

Peter Picone Wildlife Biologist, CT DEEP
• Creating Environmental Art Spaces and Places
I-Park Foundation, artist in residence
• Applying Field Techniques and Skills
Team of professional naturalists across the state

Registration required- click for electronic form
Fee: $25.00 includes lunch and refreshments
COEEA member and Green LEAF participants- $15.00
If you would like to bring your lunch the fee is $10.00.
Dress for the weather and comfort.

Grants For K-12 Teachers

Would you like to share a science lesson video that illustrate how the Next Generation Science Standards can facilitate learning at the elementary (K-6) level? Can you share one or more of your lessons to illustrate this for K-6 teachers? If you have the lesson but not the video, NSF can fund us to provide a free at-a-distance videographer (via PolyCom) to record your lesson. We have 73 K-6 lesson videos (physical, biological, and earth & space sciences), all of them recorded prior to the availability of the NGSS. We would like K-6 teachers to see how teachers are using the NGSS to facilitate learning in science and how the application of these standards can facilitate learning in other areas of the curriculum.
The National Science Foundation funds the "Teachers Helping Teachers Teach Inquiry Science: Just ASK" project. Our website (now open to all teachers) offers a portal that functions as an “specialty shop” where, so far, about 800 K-6 teachers are going to receive and give ideas about inquiry science and how it helps their students learn in areas other than science.
You can check out our project at http://jusstaskateacher.com and you can see our newsletters on that website or at the links below.
Questions, comments, suggestions? We would like to hear from you. Use our "Contact Us" link on our website or just use the Email address below.
Charles C. Matthews, Ph. D.
Academic Research Scientist
University of Missouri at St. Louis
matthewssc@umsl.edu
Skype: dr.charles.c.mathews
Email to schedule Skype, PolyCom, or Elluminate

Garland-Brown, Annette
CTGreenLEAF Coordinator
University of Missouri at St. Louis
matthewscc@umsl.edu

Connecticut Green LEAF Schools has been awarded a Teacher Quality Partnership Grant through the CT Office of Higher Education.

Would you like a complete list of grants that has been provided by the National Science Foundation Association? NSTA has put these grants and their deadlines in an easy to follow calendar. It includes: deadline date, description, category, and grade level. To view this list, please visit: http://www.nsta.org/publications/calendar/

OPPORTUNITIES FOR STUDENTS

2014 International Student Carbon Footprint Challenge
Secondary school students will be able to measure the impact of the choices made each day to learn together how they can make better ones. Invitation letter for the session (with relevant dates and links included) at: http://footprint.stanford.edu/documents/ISCFC_SepOct2014_invite.pdf

NEW CHALLENGE! Chemical Educational Foundation® (CEF), a nationally recognized non-profit organization dedicated to enhancing grade K-8 students’ appreciation of the science and value of chemistry. CEF has created a series of You Be The Chemist® (YBTC) programs, including the YBTC Challenge, an academic competition for grade 5–8 students. The YBTC Challenge engages grade 5–8 students in learning about important chemistry concepts, scientific discoveries, and laboratory safety. The Challenge is organized into three competitive levels: local, state, and national. Local and state competitions take place throughout the school year, and culminate in a national competition held each June in Philadelphia, PA (see our YouTube video). This year the Challenge will celebrate its tenth anniversary with over 23,000 participants in 30 states. Connecticut currently has three Local Challenge sites in New Haven County, Fairfield County, and Waterbury. For more information, including information about our YBTC Activity Guides (available for FREE online download) www.chemed.org.

Cool Career Cards: A Fun, Easy, and Free Way to Connect Students to Careers in STEM
At Sally Ride Science, everything we do is about connecting your students to careers in STEM.

With these Cool Careers in STEM activity cards, kids match job titles to images and-in the process--are introduced to the wide array of careers only STEM offers.
By seeing that a rewarding career awaits them, students are more likely to stay engaged with STEM.

Get your download here. Engaging Teacher Activity Guides that provide classroom plans and state standard-aligned exercises for students Visit Sally Ride Science today for your Cool Careers in STEM cards and to learn more about the site license.

Get a free download of "Science Can Take Them Places," a booklet our founder, Dr. Sally Ride, helped create for educators and student parents alike. Subtitled "Encouraging a Child's Interest in Science, Technology, Engineering, and Math," it provides information and insight on helping kids stick with STEM—in school, and as a career path. And you can get it for free, in English or Spanish or both. Click here to download "Science Can Take Them Places" (and/or "La ciencia puede llevarlos a lugares"). Sally Ride Science www.sallyridescience.com

From David Bydloski, Michigan Science Matters...

October 17, 2014: Deadline for K-12 Students to enter the Earth Science Week 2014 Photography Contest. Please visit: http://www.earthsciweek.org/contests/photography/index.html

October 17, 2014: Deadline for Students in Grades K-5 to enter the Earth Science Week 2014 Visual Arts Contest. Please visit: http://www.earthsciweek.org/contests/visualarts/index.html

October 17, 2014: Deadline for Students in Grades 6-9 to enter the Earth Science Week 2014 Essay Contest. Please visit: http://www.earthsciweek.org/contests/essay/index.html


October 27, 2014: Deadline to enter the American Nuclear Society Nuclear Art and Multimedia Challenge. Please visit: http://nuclearconnect.org

November 1, 2014: Deadline for MS and HS Students to apply for the Coleopterists Youth Incentive Award. Please visit: http://www.coleopsoc.org/default.asp?Action=Show_SocietyInfo&ID=Youth

December 31, 2014: Deadline for High School Seniors to enter HQ’s Ordinary Object Redesign Student Contest. Please visit: http://builtbyhq.com/scholarship/

Thank you, David

RESOURCES:

The 2014 CASE Fall Bulletin is now available. In this issue:

- Connecticut’s Electric Grid: Keeping the Lights on Three Years Later
- Award Winning ‘Science on Saturdays’ at Yale
- News from the National Academies:
  - ‘National Vision’ Urged for Coastal Risk Management
  - Preparing the Planet for 10 Billion People
  - NRC Workshop Examines Impact of Big Data on Materials Science Community, Manufacturing
  - IOM Report Urges Overhaul of Nation’s $15 Billion Public Financing Program for Physician Training
  - New Report Confirms Classification of Styrene as ‘Reasonably Anticipated’ to be Human Carcinogen
- In Briefs: Science and Technology News from Around the State

Check out our newest game, HABITATS! HABITATS is available to play for free online. Do you know where the red-eyed tree frog calls home? Play this game based on animal habitats to learn! Explore the desert, coral reef, jungle, and marsh to
discover where many animals live by matching each animal to their correct habitat!
Learn More

A MESSAGE FROM LIZ BUTTNER, CONNECTICUT STATE DEPARTMENT OF EDUCATION:

Listed below are a variety of professional learning opportunities and resources that may be of interest to you as you think about your professional goals for the 2014-15 school year:

1. NSTA’S NEXT GENERATION SCIENCE IN THE CLASSROOM
District Science Coordinators and K–5 teachers will not want to miss NSTA's upcoming series of web seminars focused on teaching the Next Generation Science Standards (NGSS) in elementary school. Each month from September through February, we will focus on a particular grade level, kindergarten through 5th grade. Presenters will review the general architecture of the Next Generation Science Standards and the specific expectations for each elementary grade level. Then participants will learn how to use the standards to plan curriculum and instruction. During each of these 90-minute web seminars, you will also have an opportunity to deepen your understanding of:

- how the three dimensions of NGSS (practices, core ideas, and crosscutting concepts) are designed to blend together during classroom instruction;
- dive into one or two examples of what the teaching and learning to achieve NGSS looks like in a specific grade; and
- discuss instructional practices with other teachers of the same grade level; and
- begin the development of a grade-level community in the NSTA Learning Center to support students learning.

Find more information and/or register:

Teaching NGSS in Elementary School—First Grade, Wednesday, October 22, 2014
Teaching NGSS in Elementary School—Second Grade, Wednesday, November 19, 2014
Teaching NGSS in Elementary School—Third Grade, Wednesday, December 17, 2014
Teaching NGSS in Elementary School—Fourth Grade, Wednesday, January 21, 2015
Teaching NGSS in Elementary School—Fifth Grade, Wednesday, February 18, 2015

2. NSTA Archived Webinars
full archive of past programs can be accessed for free.

Liz Buttner. 165 Capitol Avenue, P.O. Box 2219, Hartford, CT 06106, PHONE: 860-713-6849 FAX: 860 713-7018

Materials Available to Connecticut Middle Schools! Free Online Teaching Materials & Professional Development for Connecticut Public School Students and Educators through June 2016. Sea Research Foundation, based in Mystic, Connecticut, is home to Mystic Aquarium, JASON Learning and the Ocean Exploration Center. Through the support of the Connecticut Department of Economic and Community Development, Connecticut middle schools have access to a set of multimedia instructional materials and professional development free of charge through the 2016-17 academic school year:

a. **Online access** to the gated, JASON Expedition Center featuring curricular resources, videos, digital labs and games, simulations, and more.

b. **Professional development workshops** in JASON curricula including teacher and student print editions, and DVD.

Best suited for Grades 5-9, the curricular themes include: Climate, Weather, Geosphere, Ecology, Forces and Motion, and Energy. Visit [http://www.jason.org/roll-outs/ct-statewide](http://www.jason.org/roll-outs/ct-statewide) to sign up to receive free access to the JASON Expedition Center and to learn more about professional development workshops being offered throughout the state. For more general information about JASON Learning and its programs, visit [http://www.jason.org](http://www.jason.org) or call 1-888-527-6600

Good way to learn oxidation numbers …Mahjong Chemistry Game [http://www2.stetson.edu/mahjongchem/](http://www2.stetson.edu/mahjongchem/)

FROM THE CORNELL ORNITHOLOGY LAB: Great New FeederWatch Website: Our team just relaunched the [Project FeederWatch](http://www2.stetson.edu/mahjongchem/) website.
Triangle Coalition has many STEM articles of interest to science educators: to read these articles, go to: TRIANGLE COALITION

Want to be a NOAA-it-all about the weather and oceans? Explore these fantastic FREE NOAA resources and print publications click here to shop our entire NOAA publications collection.

In the News Too busy to sift through the news in search of interesting stories? Click on the link to read current news stories collected for you by NSTA staff members.

NASA HAS MANY RESOURCES AVAILABLE TO EDUCATORS...MANY MORE THAN WE CAN DESCRIBE IN THIS NEWSLETTER. PLEASE EXPLORE WHAT IS AVAILABLE BY CLICKING ON http://www.nasa.gov/audience/foreducators/index.html

MUSEUMS and INSTITUTIONS:

Connecticut’s Beardsley Zoo is closer than you think and open daily from 9:00 am to 4:00 pm. Adult admission

THE MARITIME AQUARIUM AT NORWALK, 10 N. Water Street, Norwalk, CT; (203) 852-0700, www.MaritimeAquarium.org. Hours: 10 a.m. to 5 p.m. daily. IMAX® theater offers the largest movie screen in Connecticut. The name of the Aquarium’s new research vessel will be R/V Spirit of the Sound – chosen through a recent Name the Boat contest open to Norwalk school students

For more information about The Maritime Aquarium’s educational programs, or its exhibits and IMAX movies, go to www.maritimeaquarium.org or call (203) 852-0700.

What Is Science Matters? Science Matters is an initiative by the National Science Teachers Association (NSTA) to bring content, news, and information that supports quality science education to parents and teachers nationwide. Science Matters builds on the success of the Building a Presence for Science program, first launched in 1997 as an e-networking initiative to assist teachers of science with professional development opportunities. Building a Presence for Science—now Science Matters—reaches readers in 34 states and the District of Columbia. Why does Science Matter? Science is critical to understanding the world around us. Most Americans feel that they received a good education and that their children will as well. Unfortunately, not many are aware that international tests show that American students are simply not performing well in science when compared to students in other countries. Many students (and their parents!) believe that science is irrelevant to their lives. Innovation leads to new products and processes that sustain our economy, and this innovation depends on a solid knowledge base in science, math, and engineering. All jobs of the future will require a basic understanding of math and science. The most recent ten year employment projections by the U.S. Labor Department show that of the 20 fastest growing occupations projected for 2014, 15 of them require significant mathematics or science preparation to successfully compete for a job. This is why Science Matters. Quality learning experiences in the sciences—starting at an early age—are critical to science literacy and our future workforce. Feel free to publish this information in school newsletters and bulletins, and share it with other parents, teachers, and administrators.