5-2012

ISTS, May 2012

Iowa Academy of Science

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Deja Vu??

Greetings to you! Yes, this may seem like deja vu to some of you... I’m honored to be elected as the Chair for IAS-ISTS once again! 😊

As the 2011-12 school year comes to an end, you may be checking items off your list. Final grades posted? Check. Chemicals locked and stored properly? Check. Items put away and off counter tops? Check. Marked your calendar for the 2012 Fall Conference (Oct 15-16)? Check!! Created proposal to present at the 2012 Fall Conference? Check!! and Double Check!!!

What? This wasn’t on your list? Why not? We need teachers like YOU to share ideas, methods, assessments, resources, successes with students, the list goes on and on, at the 2012 Fall Conference!

Watch the IAS-ISTS website – submit your proposal soon!!!

http://www.iacad.org/ists/index.html

Have a relaxing summer! Whether you are continuing your education, taking workshops for fun, having quality family time, or catching up with a good book... I wish you a wonderful summer!!! And I look forward to catching up with you at the 2012 Fall Conference next October!!!

Clear skies,
De Anna Tibben

Oh, and one more thing -

I would like to invite you to take part in the Saylorville and Coralville Lake Science Speakers Series for the 2012 Summer Season. Please go to http://www.iacad.org/understand.html for details on the specific talks. From Pachyrhinosaurus to Blizzards, you’ll be amazed, informed, and entertained!

Also, I’d like to invite you to utilize the National Wildlife Refuge Series http://www.scienceinowa.org/nwr Possibly you could plan a family trip or a future educational adventure through this resource.

Clear skies,
De Anna
Next Generation Science Standards Draft Now Open for Public Discussion

Progress is being made on development of the Next Generation Science Standards.

Iowa and 25 other states are currently working with Achieve, Inc. to develop the Next Generation Science Standards (NGSS). The new standards are based upon A Framework for K–12 Science Education by the National Research Council and released last year. The first public viewing of the new standards themselves is now open, and most certainly comes at about the worst time of the academic year for K–12 and post-secondary educators to provide feedback. As the Program Director of the Iowa Academy of Science, I am using this venue to plea for YOUR participation in this process. As members of the Iowa Science Teaching Section of the Iowa Academy of Science we join together because we believe in the Academy’s mission to promote science research, science education and public understanding of science within our state. The timing may not be ideal but this is our opportunity to contribute to the national dialog. This is our opportunity to be sure that the next set of expectations for what we do in our classrooms reflects what we know about what science is, how science works and how people learn.

IAS will pass on the information about the public comment period as soon as it is announced. Please take time to comment and encourage your colleagues, administrators, parents and active community members, even your students to take part as well. Until then, here are some documents about the standards that should be a part of every educator’s library:

- Download these Standards Documents
  Free pdf download or $39.95 paperback
  The framework document that outlines the research base – why is there a need to change the standards and the overall organization of the new standards. This document also explains the rationale behind changes in vocabulary.

  Free pdf or $4.76 for NSTA members/ $5.95 for non-members
  This document is helpful for educators who are currently familiar with the National Science Education Standards.

It outlines differences, additions, scope and sequence changes between NSES and the NGSS Framework. It includes suggestions for preparing to implement NGSS and “what do these changes mean in the classroom?”


More Information:

- Next Generation Science Standards Website: [http://www.nextgenscience.org](http://www.nextgenscience.org)


-Marcy Seavey
U.S. Students Show Slight Improvement on Science Test—No Cause for Optimism, Says NSTA

The science results of the 2011 National Assessment of Education Progress (NAEP), also known as The Nation’s Report Card, were released last week by the National Assessment Governing Board (NAGB). The results showed that the average eighth-grade science score rose from 150 in 2009 to 152 in 2011, a small increase, but still far below 170, which is considered science proficiency on the test’s 300-point scale.

The NAEP data also revealed that score gaps between white and black students and between white and Hispanic students narrowed slightly from 2009 to 2011. In comparison to 2009, average science scores in 2011 were one point higher for white students, three points higher for black students, and five points higher for Hispanic students.

NAEP tested a nationally representative sample of 122,000 students in 8th grade from 7,290 public and private schools. Among the 47 states that chose to participate in both years, scores were only higher in 16 states—Arkansas, Colorado, Georgia, Hawaii, Maine, Maryland, Michigan, Mississippi, Nevada, North Carolina, Rhode Island, South Carolina, Utah, Virginia, West Virginia, and Wyoming.

According to NSTA's Interim Executive Director Dr. Gerry Wheeler, “There is no cause for optimism regarding the science results of the 2011 National Assessment of Education Progress (NAEP). Overall, the results show miniscule gains in student achievement. The majority of our eighth-grade students still fall below the proficiency level … When you consider the importance of being scientifically literate in today’s global economy, these scores are simply unacceptable.”

Click here to read NSTA’s official statement regarding the science results of the 2011 National Assessment of Education Progress.

from NSTA Reports, May 14, 2012

Congratulations to the Iowa Academy of Science 2012 Excellence in Science Teaching Awards Winners

The 2012 ESTAs were awarded in a luncheon ceremony on Saturday, April 21st, 2012, during the 124th Annual Meeting of the Iowa Academy of Science. Six of the seven awardees were able to attend. These outstanding educators were selected based on nominations of their peers, administrators and/or students and evaluation of four essays in which each described their professional development experiences, the 5 characteristics they feel are essential for effective teaching, their assessment methods, and one of their most successful teaching experiences.

Winners receive a plaque, $200 and will be guests of honor at the ISTS Fall Conference Luncheon. For more information about the ESTAs and other IAS awards visit: http://www.iacad.org/recognize.html

ISTS Newsletter May, 2012

Elementary Education
Christine Sutherland
Kreft Primary School, Council Bluffs

Elementary Education
Donna R. Johnson
Neil Armstrong Elementary School, Bettendorf

Photo above: Kris Groff, Joan Moorhead, Donna Johnson, Teri Wiese, Mike Goudy and Keven McGinity (from left to right). Christine Sutherland is not pictured.

Middle/Junior High Science
Joan Moorhead
Williams Intermediate School, Davenport

Physical Science
Kevin B. McGinity
Ottumwa High School, Ottumwa

Life Science
Mike Goudy
Oskaloosa High School, Oskaloosa

General/Multiple Science
Kris Groff
Sheldon High School, Sheldon

Earth/Environmental Science
Teri Lynn Wiese
North High School, Davenport

Nominations for 2013 are open through January 31st, 2013.
STEM Course Using Models

Problem solving? Critical Thinking? Demonstrate “understanding” at a deep level?

Are these things you would like your students to know or be able to do? If so this is the course for you.

In the 2 day (June 13-14 (Second Course to be offered Aug 8-9 in Cedar Falls)) course “Engaging Your Students in STEM with Technology Using Models K-12” (1 hour of license renewal or Drake Credit (pending approval)is available) you will learn how to use, and have your students use, modeling to learn and demonstrate understanding with a free technology tool called “Scratch” (http://scratch.mit.edu/). This tool uses technology as a way to connect and engage students in the essential concepts and skills of the Iowa Core while supporting higher levels of cognitive thinking with your students and at the same time addressing STEM careers.

To register go to: https://prodev.aepdonline.org/4DCGI/TE094399171301INV&*

Blank Park Zoo Summer Workshops

The Blank Park Zoo would once again like to invite educators to workshops to be held at F.W. Kent Park near Tiffin, Swan Lake state Park in Carroll, and Lime Creek Nature center in Mason City on the dates listed below. The workshops are good for one hour of university or license renewal credit and teachers will be eligible to schedule a classroom animal program for FREE!! Our education department is willing and able to travel to districts across the state with our classroom programs (animals included!).

Participants in our workshops engage in inquiry investigations that are connected to the Iowa Core and national standards, learn research-based instructional practices, and gain knowledge and ideas that will be useful in their classrooms.

Workshop Descriptions:

Habitats and Adaptations - Teachers will experience a module created by the Wildlife Conservation Society and used at the Blank Park Zoo. H.E.L.P (Habitat Ecology Learning Program) utilizes art, math, geography and live science to explore ecology. The lessons are designed to motivate students, encourage critical thinking, and make learning fun. This course will specifically focus on animal adaptations and different habitats, with visits from live animals from various ecosystems! Lessons are flexible, allowing teachers to adjust for their students’ abilities; and relate to all age groups in several subject areas. All lessons are connected to the National Science Standards and the Iowa Core Curriculum for science, math and literacy.

Climate Change - Educators will participate in learning activities designed by a collaborative of seven national organizations including the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration, the Environmental Protection Agency, U.S. Fish and Wildlife service, the National Parks service, and U.S. Forest Service. The activities are organized in a DVD based Toolkit that uses a case study approach to focus on climate change and its impact on wildlife and public lands. All activities have been reviewed by scientists and by educators from the 2008 Einstein fellowship Program and are aligned with the National Science Education Standards. Strong connections to the Iowa Core, both in science and Characteristics of Effective Instruction are emphasized.

Cost: $15.00 to help cover materials and meals, payable at workshop; credit fees if taking for credit

Included in workshop: Coffee and rolls each morning, lunch both days, materials for teachers to utilize in their classrooms, and a scholarship that will pay for a classroom visit!

Workshops will run 8:30-4:30 both days

Habitats and Adaptations
Tiffin: June 13/14, 2012
Carroll: June 19/20, 2012
Mason City: August 7/8, 2012

Kathy McKee
K-12 Education Coordinator
Blank Park Zoo
7401 SW 9th Street
Des Moines, IA 50315
515-974-2557
kamckee@blanlparkzoo.net
NOVA has launched a "NOVA Elements" iPad application, based on the show "Hunting the Elements." The app includes an interactive periodic table of elements, an "Essential Elements" game, and NOVA's full, two-hour "Hunting the Elements" program. Also included is a teacher guide with ideas on how to incorporate the iPad app into your classroom, with connections to biology, earth science, physics, astronomy, and - of course - chemistry! Take a look at the demonstration video of how to use the app, and download it for free here.

Scale of the Universe
by Jay Sinclair
in the March 2012 NESTA Newsletter

Do your students have problems understanding scale? Do they get bogged down with their conceptual understanding of something as big as the universe or as small as an electron? Do they still have problems telling the difference between a centimeter and an inch? This interactive site, designed by two California High School Students might be very helpful. Please be patient while this page loads -- it does include, after all, the entire universe. scaleofuniverse.com

Chemistry, Physics and Physical Sciences Modeling Workshops

Fifty Modeling Workshops in high school physics, chemistry, and/or middle/high school physical science will be offered in summer 2012 at ~28 sites in ~20 states. These locations will offer workshops: Tempe AZ, San Francisco Bay area, Miami FL, Chicago IL, Notre Dame IN, Iowa, Kansas, southern Maine, Detroit MI, Winona MN, Omaha NE, southern New Jersey, North Carolina, Buffalo NY, Columbus OH, Bowling Green OH, Pennsylvania, Philadelphia, South Dakota, Tennessee, Houston TX, and Oshkosh WI (and possibly others).

Is your school struggling with how to integrate social media into learning? Resources for developing Social Media Guidelines are available here: http://www.edutopia.org/blog/
Exploring Iowa’s Natural Resources
Fall Course
September 3 - December 16, 2012.

The goal of this course is to help you utilize local natural resources as unifying themes to implement Iowa Core concepts in your curriculum. You will work in small groups and individually to create a network of contacts and resources to teach natural resource concepts. Group and individual assignments will build on each other throughout the course.

Participants are required to spend 4-5 hours per week on-line completing assignments and participating in group discussions. Participants should be comfortable navigating web pages, have access to internet and a computer on a daily basis, and possess basic computer skills. A majority of the course materials will be provided on a CD with linked pdf files.

Course Objectives
Participants completing this course will:
1. Become more knowledgeable about local natural resources and issues facing them.
2. Increase knowledge/skills on finding credible electronic resources.
3. Compile a list of local natural resources areas and contacts.
4. Develop a topical unit that meets their specific teaching needs.
5. Be acquainted with a variety of additional resources to enhance their personal knowledge of Iowa’s natural resources and issues facing them.

Course Requirements
The course is arranged on a weekly basis – Monday through Sunday. Each week you will have a new Module of required readings, resources and references, assignments, and occasional guest speaker discussions (see the attached Course Syllabus). Assignments will be available at 12:00 a.m. on Mondays and must be completed by 11:00 p.m. on Sunday.

How to Register
You must register on-line. Registration deadline is August 22, 2012. Registration fee includes materials and 3 license renewal credit for $60. This course is being offered by AEA PD Online, a joint initiative by all of Iowa’s Area Education Agencies. This course therefore uses AEA PD Online’s alternative fee schedule for license renewal credit. Transcripts and credit will be issued by AEA PD Online instead of Heartland AEA.

For More Information
Contact: Shannon Hafner, Aquatic Education Program, Iowa Department of Natural Resources, 2473 160th Road, Guthrie Center, IA 50115, (641) 747-2051, Shannon.Hafner@dnr.iowa.gov

Experiences in Inquiry - an IMPACT workshop
Professional Development Opportunity through UNI -- For Middle School Teachers and Administrators in AEA 1.

Collaborate with your colleagues from AEA 1.
Participate in a WebQuest as you explore using Inquiry.
Earth science activities from STORM & GLOBE used to demonstrate Inquiry skills
Concepts may be incorporated into any science lesson.
Ideal opportunity for collaboration between teachers of multiple subjects.
Explore technology integration in an Inquiry setting.
The workshop complements Iowa’s Every Learner Inquires Initiative and the Iowa Core Curriculum.

Date: June 26-27, 2012
Time: 8:00 am - 5:00 pm;
Lunch provided
Location: MFLMarMac High School (Monona)
Free Workshop -- Graduate Credit Available -- Participant Stipend
See the project website for the application and more details: http://www.uni.edu/ietti/impact/about_impact/

Contact Doreen Hayek with questions: doreen.hayek@uni.edu or 319-273-7300 (UNI phone).
**MiniSumo Robotics Camp**

The UNI Physics Department will be conducting a 2012 MiniSumo Robotics Camp for high school students this summer from June 18-22.

A link directly to the camp webpage is: [http://www.uni.edu/camps/2012-minisumo-robotics-camp](http://www.uni.edu/camps/2012-minisumo-robotics-camp) A downloadable form containing registration forms, and many details about the camp is available on that webpage.

Additional information about UNI robotics is available at [www.narobotics.org](http://www.narobotics.org).

**NASA Live Help Desk**

We now have an online videoconference style, NASA Education help desk manned by Aerospace Education Services Project staff from 9:00 AM to 9:00 PM Eastern time weekdays using Adobe Connect. You do not need any special equipment or software to log in. Just go to [https://meeting.psu.edu/neonofficehours](https://meeting.psu.edu/neonofficehours) when you have a question.

**Geophysical Science Workshop**

Keep your ears peeled about plans for the Geophysical Information for Teachers (GIFT) workshop in San Francisco December 3 and 4, 2012. Proposals will be solicited from scientist/educator presenter teams who are interested in providing a presentation accompanied with a closely related hands-on activity or set of activities. Teams will apply to present through an online form which will be made available on AGU Education web page ([http://education.agu.org/](http://education.agu.org/)) from June 1 to September 10. Look for further information on the website this summer.

**Student Spaceflight Experiments Program: Mission 3 to International Space Station**

The National Center for Earth and Space Science Education, in partnership with NanoRacks, LLC, announces Mission 3 to the International Space Station. This opportunity gives students across a community the ability to design real experiments to fly in low Earth orbit on the Space Station. The program is open to students in grades 5–14.

Each participating community will be provided a real microgravity research mini-laboratory and all launch services to get it to and from the International Space Station. An experiment design competition in Fall 2012 in each community (September 17 through November 9) allows student teams to design and write proposals for real experiments vying for their community's reserved experiment slot on the Space Station. Flight experiments are selected by December 7, 2012. Additional programming leverages the experiment design competition to engage the community, embracing a Learning Community Model for science, technology, engineering and mathematics (STEM) education.

The flight of the payload to Space Station is expected in early April 2013, and a return to Earth in mid-May 2013, so that the entire Mission 3 program is contained in the 2012–13 academic year.

For more information, visit the [SSEP website](http://ssep.nasa.gov/).

**Ethanol Rocks Video Contest**

The National Corn Growers Association (NCGA) is conducting a nationwide competition to promote the advantages of ethanol in motor vehicles. The NCGA “Ethanol Rocks” Video Contest invites high school and college students to produce a promotional video that highlights the benefits of this fuel. Two $1500 and two $500 awards will be presented. Contestants must read and agree to the Official Rules of the contest, upload the video to an unlisted YouTube site (directions on uploading are provided in the Guidelines), and complete the application for contest eligibility. The deadline is October 15, 2012. Visit the [NCGA website](http://www.ncga.com) for further details.

*from NSTA Express, May 7, 2012*
IMPLEMENTING THE IOWA CORE THROUGH SITE-BASED PROJECTS

June 14 - 9:30 a.m. - 8:00 p.m.
June 15 - 8:00 a.m. - 3:30 p.m.
Neal Smith Learning Center Classroom, Prairie City

Educators will be introduced to a variety of nationally-developed resources that support authentic learning. Training will include using a project-based learning model and field investigations to create relevant learning opportunities for students that support the Iowa Core.

Trainers will work with educators to incorporate activities from the projects into inquiry-based learning cycles. Educators will be encouraged to develop site-based projects to study and/or improve their local natural resources.

Participants are encouraged to bring information about their school site or a nearby natural area for use with workshop activities. Teaching partners/groups are encouraged to facilitate planning/implementations of projects.

A limited number of stipends of $150 are available from the DNR Aquatic Education Program to participants. To be eligible for the stipend, the participant must develop a project-based learning unit, based on a local natural resources topic/concern that meets the criteria to receive an "A" in the course. Contact us at edinfo@dnr.iowa.gov for more information.

Registration Deadline: June 1, 2012.
You must register online.
Course Fees: A materials/meals fees of $60 is included in other fees: 1 Renewal credit $85; 1 (D-EDEX) Drake credit $185

Galileo Goes to Mars
A Hands-on Workshop on Astronomy for Teachers in Grades 3 – 12

The Astronomical Society of the Pacific workshop is part of a national "Galileo Teacher Training Workshop" series, begun in 2009, during the 400th anniversary celebration of Galileo's telescope.

Saturday and Sunday, Aug. 4 - 5, 2012, 8:30 am – 5:00 pm
DoubleTree Hotel Reid Park, 445 S. Alvernon Way, Tucson, AZ

Workshop participants will explore:

* Classroom-tested, standards-based, hands-on astronomy activities (with a focus on the solar system)

* The development of students' understanding of science and science reasoning skills

* How astronomy and space science fit into the new science framework and standards

* How to keep up with recent developments in our exploration of the universe

* The wealth of astronomy teaching resources now available (each person will receive "The Universe at Your Fingertips 2.0," a collection of 133 classroom-ready activities and many other teaching resources on DVD-ROM)

No background in astronomy is required.

We welcome both novice and veteran science teachers.

Registration: $75 for both days
Registration will be accepted in the order received. The deadline for priority registration is June 10, 2012.

For more information and registration instructions, please see: http://www.astrosociety.org/events/2012mtg/gtp.html

Scholarships for registration and travel assistance are available for a limited number of teachers whose classrooms include a significant number of Hispanic or Native American students.

For teachers who can stay, we will have a "Mars party" and live feed from the landing of the Curiosity Rover on Mars, late Sunday evening, Aug. 5th.

Teachers are also invited to register for our symposium on "Communicating Science" Aug. 6 - 8. See the website for more information.

The Practical and Fun Side of Science

June 18, 2012 - 9:00 a.m. to 10:30 p.m.
June 19, 2012 - 8:30 a.m. to 4:30 p.m.
Springbrook Conservation Education Center (2473 160th Road, Guthrie Center)

This class was designed to show elementary teachers that science can be fun and practical. Teachers will be introduced to some simple, hands-on science lessons that will make learning enjoyable for students. These lessons will not only be practical and fun to use, but will also help students with the understanding of basic science concepts.

Registration Deadline: June 6, 2012
Practical and Fun Side of Science Registration Form

Women at NASA
From American Astro. Society Committee on the Status of Women newsletter:

NASA has a new mentoring program for 5th-8th grade girls through the Women at NASA program, called NASA G.I.R.L.S. For a direct link to the program: http://women.nasa.gov/nasa-g-i-r-l-s/ For a great write-up and short interview about the program:

http://www.geekmom.com/2012/03/introducing-nasa-g-i-r-l-s-a-new-mentoring-program-for-girls/
Living Lands and Waters
Workshops for Teachers and High School Students - Upper Mississippi River

This summer! Visit:  http://www.meetingoftherivers.org/html/our_mississippi_files.html

SUMMARY OF STUDENT WORKSHOPS
For the first time ever, LL&W will be hosting workshops, specifically for high school students aboard our new floating classroom. These FREE workshops will bring students to the river to learn about the value of fresh CLEAN water, waste reduction, and the importance of recycling—using the work and operations of LL&W as a visible example of their importance. Further, LL&W staff have put together a “menu” of other river-related topics that span all disciplines and will work with each individual teacher to cater a portion of the workshop to meet the needs of the students and their curricula. The workshops are fun. They’re free. Hopefully they’ll leave students inspired to make a difference.

SUMMARY OF EDUCATOR WORKSHOPS
In partnership with the US Army Corps of Engineers, LL&W will be hosting FREE one-day workshops to educators (both traditional and non) on the Corps’ new curriculum and activities guide-Our Mississippi. This curriculum is awesome—and aligned to each state on the Mississippi’s educational standards to make it as easy for teachers as possible. In addition to curriculum training, LL&W spend some time in the field with each group—showing them first hand via our work boats, different facets of the River. To take a sneak peak at the curriculum, visit:  http://www.meetingoftherivers.org/html/our_mississippi_files.html  Be sure to check out lesson 2.5 featuring our own, Chad Pregracke. And while the Curriculum is called “Our Mississippi”, much of the content pertains to the entire watershed, encompassing the Illinois and Ohio Rivers as well!

More info: Jaymie Schuldt
Living Lands & Waters
P: 309.236.6279
E: Jaymie@livinglandsandwaters.org
W: www.livinglandsandwaters.org

MARK YOUR CALENDAR!!

Be on the lookout for Fall Conference Information. The beautiful cover is shown to the left.

The ISTS Fall Conference plans are well underway. It will be full of educational opportunities, STEM news, classroom techniques, and chances to network.

Why not share some of your ideas by signing up to lead a session? Go to  http://www.iacad.org/ists/index.html  for more information.

IAS - Promoting science research, science education and public understanding of science in Iowa since 1875.
Only 93 million miles from Earth, a certain G-type star is beginning to act up.

Every 11 years or so, the solar cycle brings a period of high solar activity. Giant islands of magnetism—"sunspots"—break through the stellar surface in increasing numbers. Sometimes they erupt like a billion atomic bombs going off at once, producing intense flares of X-rays and UV radiation, and hurling massive clouds of plasma toward Earth.

This is happening right now. Only a few years ago the Sun was in a state of deep quiet, but as 2012 unfolds, the pendulum is swinging. Strong flares are becoming commonplace as sunspots once again pepper the solar disk. Fortunately, Earth is defended from solar storms by a strong, global magnetic field.

In March 2012, those defenses were tested. At the very beginning of the month, a remarkable sunspot appeared on the Sun’s eastern limb. AR1429, as experts called it, was an angry-looking region almost as wide as the planet Jupiter. Almost as soon as it appeared, it began to erupt. During the period March 2nd to 15th, it rotated across the solar disk and fired off more than 50 flares. Three of those eruptions were X-class flares, the most powerful kind.

As the eruptions continued almost non-stop, Earth’s magnetic field was buffeted by coronal mass ejections or “CMEs.” One of those clouds hit Earth’s magnetosphere so hard, our planet’s magnetic field was sharply compressed, leaving geosynchronous satellites on the outside looking in. For a while, the spacecraft were directly exposed to solar wind plasma.

Charged particles propelled by the blasts swirled around Earth, producing the strongest radiation storm in almost 10 years. When those particles rained down on the upper atmosphere, they dumped enough energy in three days alone (March 7-10) to power every residence in New York City for two years. Bright auroras circled both poles, and Northern Lights spilled across the Canadian border into the lower 48 states. Luminous sheets of red and green were sighted as far south as Nebraska.

When all was said and done, the defenses held—no harm done.

This wasn’t the strongest solar storm in recorded history—not by a long shot. That distinction goes to the Carrington Event of September 1859 when geomagnetic activity set telegraph offices on fire and sparked auroras over Mexico, Florida, and Tahiti. Even with that in mind, however, March 2012 was remarkable.

It makes you wonder, what if? What if Earth didn’t have a magnetic field to fend off CMEs and deflect the most energetic particles from the Sun.

The answer might lie on Mars. The red planet has no global magnetic field and as a result its atmosphere has been stripped away over time by CMEs and other gusts of solar wind. At least that’s what many researchers believe. Today, Mars is a desiccated and apparently lifeless wasteland.

Only 93 million miles from Earth, a G-type star is acting up. Thank goodness for magnetism.

With your inner and outer children, read, watch, and listen in to “Super Star Meets the Plucky Planet,” a rhyming and animated conversation between the Sun and Earth, at http://spaceplace.nasa.gov/story-superstar.

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