

ISTA WORKSHOP ABSTRACTS

(listed alphabetically by name of the primary presenter)

Rick Alm, Science Chair, Bonneville High School, Idaho Falls, Idaho

NSBRI Space Physiology

NSBRI—National Space Biomedical Research Institute approved activities to relate space travel effects on human physiology. The microgravity environment is pretty tough on the human body. These activities illustrate some of these effects. Topics include bone density, balance and cardiovascular fluid shift. All topics include an activity to relate the concepts to students. Handouts and a CD of the presentation will be available.

Subject area: Astronomy

Grade level: Middle/Junior High, High School

Larry Barnes, Teacher, Wood River High School, Hailey, Idaho

Increase Student Participation with Quizdom Audience Response System

Quizdom is an audience response system that encourages student participation. You may insert questions into your Powerpoints and check comprehension during your presentation. Students may use the Quizdom remotes to enter their test responses. There are many review games that are fun ways for students to review for tests. I teach high school biology and have been using Quizdom for two years.

Success with Tom Lord's Constructivism in High School Biology

Over several years I have attempted to adopt some of college professor Thomas Lord's ideas on constructivism in my compulsory biology classes. Ideally, students construct their own knowledge through inquiry-based activities; traditional notes are eliminated. While I still retain some notes, I have made my classes more interesting and fun by moving toward constructivism through team activities and open-ended problems. I will share the successes and pitfalls I have experienced during my shift from teacher-centered learning toward student-centered learning.

Using the Free Quizstar Website to Write Tests and Assess Students Online

Quizstar is a free online resource that teachers may use to test their students. The teacher enters a test and then makes it available to students who take the test in or outside of class depending on the teacher's desire. I began using Quizstar in 2004-05 and am continuing this school year. Grading is instantaneous and retesting can occur outside the classroom. Teachers may use images and sounds to make fun and challenging tests.

John Black, National Science Consultant, McDougal Littell

The McDougal Science Toolkit — A Unique Resource

Join us for this presentation of a binder filled with time-saving lesson plans, strategies, and transparencies that will enhance students' science skills. A unique teaching tool!

Grade level: Middle/Junior High

Mick Bowen, Aerospace Education Specialist, Oklahoma State University / NASA AMES Research Center, Bozeman, Montana

NASA Educational Resources for your Classroom Using Worldwind (Virtual 3D Earth) and Celestia Exploration Activity (Real-Time Space Simulation Add-On to the Celestia Program)

World Wind lets you zoom from satellite altitude into any place on Earth. Leveraging Landsat satellite imagery and Shuttle Radar Topography Mission data, World Wind lets you experience Earth terrain in visually rich 3D, just as if you were really there. Virtually visit any place in the world. Look across the Andes, into the Grand Canyon, over the Alps, or along the African Sahara. World Wind can be downloaded to a pc from the AMES Learning Technologies Website at learn.arc.nasa.gov. Celestia Exploration Activity is an Add-On to the Real-Time Space simulation program called Celestia. Come explore the solar system in real time or visit the past and or the future. See the moons of the planets or various spacecraft that may be orbiting a particular planet. NASA has free educational resources related to science, technology, engineering and mathematics for grades K-12 teachers and those interested in educational materials.

Subject areas: Astronomy, Earth Science, Technology

Grade level: Middle/Junior High, High School

Kevin Collins, Science Coordinator, Idaho Department of Education, Boise, Idaho

Keeping the Focus on Quality Instruction: Teaching Science Better

As a result of the Spring 2005 field test of the Science ISAT, there is a renewed interest in teaching science across Idaho. As professional educators we must focus our instructional efforts on student learning of materials that will be significant to the lives of our students. Recent research gives us insights into instructional methods for science instruction that work and also boost reading and writing and math skills at the same time. This presentation will cover the organizational frameworks for the science ISAT and give insights into teaching strategies that support learning.

Grade level: Elementary

Understanding Idaho's Science Achievement Test

To meet the requirements set forth by the federal law known as No Child Left Behind, Idaho is developing a science exam based on a subset of the science standards now known as the Science Power Standards. This presentation will discuss the history of how the Power Standards were identified, the focus of item writing and what can be done to help teachers foster learning of science in their classrooms.

Chris Corwin, Environmental Health Education Specialist, Idaho Department of Health and Welfare, Boise, Idaho

Integrating Environmental Health into your Existing Curriculum

This workshop will give teachers ideas on how to integrate environmental health issues into their already existing curriculum. Through demonstrations and environmental health lesson plans, teacher will be able to use environmental health to reinforce the concepts they have just learned in their science or health class. It will give them real world applications and help them become critical thinkers. This information can also be used in English, history or math classes. It's curriculum integration using environmental health.

Alexa Davis, University of Idaho, Moscow, Idaho

Voyage Through Time Curriculum Modules

This workshop will focus on Voyages Through Time (VTT) an integrated science curriculum based on the theme of evolution and delivered on CD-ROM. The curriculum is divided into six modules: Cosmic Evolution, Planetary Evolution, Origin of Life, Evolution of Life, Hominid Evolution, and Evolution of Technology. Individual modules can also be used in discipline-based science courses such as biology, earth science, geology, or astronomy. The evolutionary scope of VTT is billions of years long and ranges from the Big Bang to modern technologies. The evolution of everything provides a compelling story-line for the entire curriculum. The overarching goals for Voyages Through Time are for students to understand: 1) evolution as cumulative changes over time, 2) the various processes underlying these changes 3) the differing time scales and rates of change 4) the connections and relationships across these realms of change 5) science as a process for advancing our understanding of the natural world. Lesson groups and activities are teacher-directed and classroom-centered. The curriculum uses the guided inquiry approach students are actively involved in exploring phenomenon and developing their own understanding of concepts. (Idaho Standards: Unifying Concepts of Science, Earth and Space Systems, and Matter, Energy and Living Systems)

Subject areas: Astronomy, Biology

Grade level: Middle/Junior High, High School

Jo Dodds, Earth Science Teacher, O'Leary JHS, Twin Falls, Idaho

Linda Selvig, Earth Science Teacher, Centennial HS, Meridian, Idaho

ASSET: Astrobiology Summer Science Experience for Teachers

Engage your students in hands-on, inquiry-based astrobiology activities. We will share the latest in astrobiology research on the origin of life on Earth, the extreme conditions in which life exists, Mars exploration, the formation of planetary systems around Sun-like stars, and the search for life in the universe. Voyages Through Time curriculum will be showcased in this session.

Subject areas: Astronomy, Earth Science, Biology

Grade level: Middle/Junior High, High School

Jo Dodds, Earth Science Teacher, O'Leary JHS, Twin Falls, Idaho

REVEL (Research and Education: Volcanoes, Exploration and Life) Project

Have you thought about going on a seagoing research expedition and working with scientists? Can you fathom the life that exists on the ocean floor at hydrothermal vents? Teachers have the opportunity to participate in the REVEL project, to research, discover, and learn about the hydrothermal vent environment. While on ship, teachers interact with their students, engaging them in oceanographic challenges. Come and learn more about the research as well as how you can participate.

Subject areas: Earth Science, Biology, Technology, Chemistry, Environmental Education, Physical Science.

Science with Handhelds

Students will be using Palm handheld units in conjunction with Vernier probes to go outside the classroom for their investigations. Students can use the handheld units to collect, display, graph, print, and analyze data. Come to this session to get experience using the Palm handheld units and probes with experiments and demonstrations formerly done with devices such as thermometers, pH strips and stopwatches.

Subject areas: Earth Science, Environmental Education

Laura Eder, middle school science teacher, National Energy Foundation, Rigby, Idaho

Identifying Rocks and Minerals

Workshop participants will learn how to identify rocks and minerals. Topics to be addressed: the rock cycle, mineral identification and the classification of rocks. Teachers will receive many quality items for classroom use including a rock and mineral kit.

Grade level: Elementary, Middle/Junior High.

Marjorie Freeman, 8th Grade Science Teacher, Lewis and Clark Middle School, Caldwell, Idaho

A Patchwork of Ideas for the Science Classroom

Teachers will be introduced to the techniques of the use of student-produced quilts in the classroom. Various methods including, natural dyes, appliqué, stamping and other methods will be taught. Teachers will be given handouts on methods and materials needed and will produce a patch using one of the methods demonstrated. Making quilt patches is a unique way to encourage students to investigate measuring, math, chemistry and their artistic abilities. This activity ties in with the Idaho State Standard of Technology in the classroom as well as the History of Science. This activity will be limited to 20 participants.

Subject areas: Astronomy, Earth Science, Physics, Chemistry, Environmental Education, Physical Science

Grade level: Middle/Junior High

Bob Fuhrmann, Education Coordinator, Yellowstone National Park, Yellowstone NP, Wyoming

Yellowstone's Geysers, Earthquakes, and Supervolcanoes – Teaching Strategies

Explore unique ways of teaching about the geological events that shape the bow of the Great Rift Zone in Yellowstone National Park. Join Yellowstone's Education Coordinator to learn how to: make a caldera collapse, feel a caldera, and make a geyser. Learn about some of Yellowstone's educational opportunities both in your classroom and in the park. Expedition: Yellowstone!, a curriculum-based, residential program for grades 4-8, will be highlighted.

Subject areas: Earth science, Biology, Environmental Education.

Grade level: Elementary, Middle/Junior High

Timothy Gunderson, Teacher, Burley High School and College of Southern Idaho, Burley, Idaho

Visiting the Moon – Without Leaving Idaho

The volcanic features on the Snake River Plain are some of the best examples of plains-style volcanism found anywhere in the world. These features have been used to train geologists for many years. With the advance of space exploration in the mid-1900's, there was a need to train future space geologists. The Snake River Plain was the perfect laboratory. In 1999, I accepted an offer from the National Park Service and NASA to prepare a web-based activity for teachers to train their students in the identification of volcanic features from aerial images. Visiting the Moon – Without Leaving Idaho found at <http://www.nps.gov/crmo/visit/visithom.html> was the result of more than a year working with employees of Craters of the Moon National Monument. The main focus of this project is for students to train themselves how to identify volcanic features from images and descriptions of Snake River Plain volcanism. Students then view images of the Moon, Mars, and Venus and identify those same volcanic features. I propose to conduct a workshop to teach Idaho teachers how to use the

Website. Preferably it would be a hands-on workshop with each participant seated at a computer. Participants would learn to differentiate between meteor craters and volcanic craters and identify flow fronts, lava tubes, lava channels, rilles, rifts, grabens, cinder cones, pancake domes, ash deposits, pressure ridges, and wrinkle ridges. Idaho teachers should utilize the Snake River Plain and this project in their teaching of science and this symposium is an excellent avenue to accomplish that.

Subject area: Earth science

Grade level: High School

Virginia Jones, Science Teacher, MESSENGER Fellow, Bonneville High School, Idaho Falls, Idaho

MESSENGER Mission to Mercury for Elementary and Middle School Teachers

MESSENGER, our first mission to Mercury, blasted off in August 2004. In this workshop you will learn how to bring the magic of space travel into your classroom with inquiry-based lessons that are tied to Idaho State Standards. Science ISATs are here and the MESSENGER program can help you prepare your students for them.

Subject area: Astronomy.

Grade level: Elementary, Middle/Junior High.

MESSENGER Mission to Mercury for High School and Middle School Science Teachers

The MESSENGER spacecraft is on its way to Mercury! You will learn how to use inquiry lessons to teach Idaho Science Standards. This workshop will include challenging lessons appropriate for all high school science classes. You will also get a CD of all of the lessons as well as a beautiful poster.

Subject areas: Astronomy, Earth science, Physics, Physical Science

Grade level: Middle/Junior High, High School

The Genetics of Addiction

Learn about the latest research on how genetics influences addiction. You will receive some great lessons that you can use in your biology and health classes.

Subject area: Biology

Grade level: High School

Martha Kelley, Third Grade Teacher / ISAT Elementary Representative, Hope Elementary School, Hope, Idaho

Rhetta Anderson, First Grade Teacher, Hope Elementary, Hope, Idaho

BLAST OFF!!! Design, Build and Launch your own Rocket

Participants will experience a hands on workshop with bottle rockets. Every participant will be given a 2 liter bottle to design a rocket. They will have the experience of launching their rocket. Examples of journaling will be shared. Samples for journals and directions for launch boards will be provided at the end of the session.

Subject area: Astronomy

Grade level: Elementary

Lee Leroy, teacher, St. Maries HS, St. Maries, Idaho

Mnemonics – Help Students Quickly Memorize Terms so You Can Get on to the Really Important Work

In the days before books were widely available, people relied almost entirely on their memories. All over the world, people

developed similar systems for improving memory. These skills are largely lost in today's world of instant access to vast amounts of information. In this workshop, we will explore (and practice using) a variety of techniques to improve memory. Using examples from biology, participants will learn to use daisy chains, the peg method and numerical systems to help students quickly memorize even complicated technical terms and their meanings. Participants will then put together a set of mnemonics for their own classes.

Subject areas: Astronomy, Earth science, Physics, Biology, Technology, Chemistry, Environmental Education, Physical Science

Paul Link, Professor, and Diana Boyack and Laura DeGrey, Instructors, Dept. of Geosciences, Idaho State University, Pocatello, Idaho

Digital Geology of Idaho: New Web-Based Vehicle to Teach Earth Science Standards

The Digital Geology of Idaho project accessible via (imnh.isu.edu/digitalatlas), provides geologic teaching units, Powerpoint slide presentations on Idaho geology, and lab exercises for high school and college students. Colorful geologic maps of Idaho Counties are tied to photographs and text describing the various geologic provinces of Idaho. The workshop will familiarize teachers with this new resource, which contains information on all aspects of Idaho geology, from the Silver Valley to the Bonneville Flood and from the Yellowstone Hot Spot to the Accreted Terranes.

Subject areas: Earth science, Environmental Education

Grade level: Middle/Junior High, High School

Carolynne Merrell, Contract Archaeologist specializing in rock art recording, Archaeographics, Moscow, Idaho

Rock Art Recording Methods and Educational Opportunities

This workshop will address methods used to record pictographs and petroglyphs and the way to approach and document rock art sites. Opening remarks will include a presentation on rock art recording techniques used by professionals that will include photographic and computer imaging suggestions, vocabulary common among rock art researchers, and current dating methods. Emphasis will be placed on how nonprofessionals can do their part to become good stewards of rock art sites. One focus will identify safe ways people, including children, can visit and record pictographs and petroglyphs. Two hands on activities will conclude the workshop. All rock art examples will be from sites in the region of the Great Rift. Professional archaeologists, resource managers and educators will find value in the material presented during this workshop, which can be applied to their individual areas of rock art interest.

Grade level: Elementary, Middle/Junior High, High School

Teri Mitton, Science Teacher, Highland High School, Pocatello, Idaho

Jennifer Claypool, Graduate Student, Idaho State University, Dept. of Biological Sciences, Pocatello, Idaho

Outdoor Science: Using Science to Assess the Environmental Health of a Local Area

How do you get students to take part in the scientific process instead of doing the minimal requirements for a grade? How do you provide a meaningful lab experiences to students? How do you motivate students and pique their curiosity? This workshop will answer these questions and more. Come and learn how to have high school students do soil pH tests, invertebrate counts, plant density counts, and biodiversity estimates on the school campus and their own backyard. This presentation will address how to use biota as indicators and how to do basic data gathering. Students love getting out of the

classroom. This session will show you how to make an outdoor experience fun and meaningful. (Idaho State Science Standards covered 648.01, 648.02, 648.03, 652.02, 656.01, 656.02, and 656.03)

Subject areas: Biology, Environmental Education

Grade level: Middle/Junior High, High School

Douglass Owen, Park Interpreter / Geologist, and Ted Stout, Chief of Interpretation, Craters of the Moon National Monument and Preserve, Arco, Idaho

Introduction to Using Craters of the Moon as an Outdoor Classroom

Craters of the Moon National Monument and Preserve protects ~750,000 acres (1,100 sq. miles) encompassing most of the Great Rift, the best example of a volcanic rift zone on the eastern Snake River Plain (ESRP). Of the eight geologically young lava fields on the ESRP, the Monument encompasses the three youngest and least altered. The Kings Bowl and Wapi lava fields and much of the Craters of the Moon lava field are only about 2,000 years old and their age, coupled with the desert climate, makes them phenomenal areas to observe geologic features associated with basaltic volcanism. Features include deep open-crack rift sets, spatter ramparts, cinder cones, spatter cones, pressure plateaus, tumuli, hornitos, volcanic bombs, and different kinds of lava. The Monument also protects vast areas of sagebrush steppe habitat and provides home to 58 mammals, 3 amphibians, 10 reptiles, 660 plants, and over 200 birds. The National Park Service (NPS) and Bureau of Land Management (BLM) provide a wide range of educational opportunities from elementary to college level. Several thousand K-12 students utilize the Monument as an outdoor classroom during site visits each year. The NPS helps teachers by offering workshops, seminars, and other special programs. Teachers' guides, fact sheets, illustrated glossaries, site bulletins, detailed papers, animation clips, maps, activities, virtual trips, and other geologic, biologic, ecological, and historic products are available from the Monument and related web sites (e.g. www.nps.gov/crmo/). This workshop will provide an introduction to using this fantastic resource as an outdoor classroom.

Subject areas: Earth Science, Biology, Environmental Education, Physical Science.

Grade level: Elementary, Middle/Junior High, High School

Ralph Peterson, Teacher, North Gem High School, Bancroft, Idaho

Non-Confrontational Evolution

Once students understand the Nature of Science, the so-called controversy of evolution is diminished. This workshop will study the limits of science using a hands-on approach. This will be used to show why evolution is a good scientific theory. (State Standards: 648.01-.04, 649.01, 652.01)

Subject areas: Earth Science, Biology

Vana Richards, 5th grade teacher, Carberry Intermediate School, Emmett, Idaho

Drawing Them in and Making Family Science Nights Successful

Learn how to set up hands on science activities that will draw families in and leave them wanting more science nights.

Try out and take home, quick easy activities, which teach basic science principles, to use in your classroom or at a family science night. This workshop will give teachers hands on science activities that can be used at family night, or in the classroom. Take activities such as make and take comets, blood, stomach acid, g force suits, and NASA activities back to your classroom. The How To's of setting up a successful family night, from the initial planning to the actual night will be covered. Carberry Intermediate has had family nights with up to 400 people in attendance, using community resources,

kids, fellow teachers, and NASA resources. Learn how to select themes for your family science nights and use passports to move families through your activities.

Grade level: Elementary

From the Jelly Lab to Gummy Bears – Teaching Variables and Measurement

This workshop is a fun easy way to teach students how to make a hypothesis, use metric measurement, record data, and understand how variables affect outcomes in experiments. Using only jelly on bread students discover through experimenting and recording results how variables affect their predicted (hypothesis) outcome. Students will become familiar with scientific terms and how to record and graph results that lead to support for their hypothesis. The second part of this workshop uses gummy bears to teach the basics of mass, weight, volume, density. In a follow up to this lab, students will be predicting outcomes and reviewing how to find mass, weight, volume, and density, with some interesting results. Both these labs are easily to adapt to elementary K-6 and Junior High, giving the students a fun introduction to some science basics. This lab is a great way for students to understand the difference between mass and weight, and learn what density means. (State science standards 603-C and 604)

Grade level: Elementary, Middle/Junior High

Eric Rude, Teacher, Pocatello High School, Pocatello, Idaho

The Perfect Crime: A Forensics Simulation for High School Students

The eerie glow of a blue light being used to find evidence, the swirling of a brush to develop latent fingerprints, hair samples being examined under the microscope: the beginning of a new episode of CSI? No, these are my students finishing their forensic science unit. After learning—and practicing—fingerprint identification, soil analysis, blood typing, and much more, my students are ready to solve a crime. So, I set up a simulated crime scene, we round up the usual teachers—er, suspects—gather evidence, and finally handcuff the killer. The students show me what they have learned, and enjoy the reward of a mystery solved. In this presentation, I will demonstrate some ways in which teachers can create their own forensics lab kits, ranging from the almost no-cost to the more expensive. Teachers will learn a variety of techniques, explore sources of equipment, and discover how to set up their own perfect crime—for their students to solve. (State science standards 648.02, 648.03, 649.01, 655.01, 656.04)

Subject areas: Biology, Chemistry.

Grade level: Middle/Junior High, High School

Steve Shropshire, Associate Professor, Idaho State University, Pocatello, Idaho

Make & Take Electromagnetic Toys

Participants will make electromagnets, simple motors, sound-bite speakers, and plastic cup speakers. Electromagnets will be made with nails and wire. Motors will be made from batteries, wire, refrigerator magnets, and paper clips. Sound-bite speakers will be made from hobby motors, speaker wire, and a craft stick. Plastic cup speakers will be made with magnet wire and refrigerator magnets. Discussion will focus on the use of these constructions to address state standards on Concepts of Physical Science, Scientific Inquiry, and on Unifying Concepts of Science for grades 3 and above. Teachers will take home all items they construct. Participants will also be provided with a list of related resources in print and on the web.

Subject areas: Physics, Physical Science

Grade level: Elementary, Middle/Junior High, High School

Waves and Sound Make & Take Activities

Participants will engage in an inquiry activity investigating sound transmission through yarn and metal spoons to illustrate

implementation of the K-4 Content Standard on Science as Inquiry. Investigations into the relations between yarn tightness, weight, length and the pitch and volume of sound carried in the yarn will be encouraged. Participants will make soda straw reed pipes, film can crumhorns, and construct wave machines out of straws, tape and paper clips. Teachers will be instructed on how to guide their students through these constructions to teach Physical Science (Standard B) as outlined in the Content Standards for grades K-4, 5-8 and 9-12. The reed pipes, crumhorns, boomwhackers, and pvc poppers will be used to illustrate energy transmission through sound, the concept of resonance, and the Bernoulli effect. The wave machines will be used to illustrate energy transmission through vibration, the properties of waves on reflection and transmission, and the dependence of the speed of waves on stiffness and weight. Participants will also be provided with a list of related resources in print and on the internet.

Subject areas: Physics, Physical Science

Grade level: Elementary, Middle/Junior High, High School

Rosemary J. Smith, Associate Professor of Biology, Idaho State University, Dept. of Biological Sciences, Pocatello, Idaho

Inquiry-based Lessons to Teach Biology Using Native Plants and Animals

This workshop will involve teachers in four inquiry-based science lessons that use organisms from the sage-steppe ecosystem to teach biological concepts. The basic principles of an inquiry-based approach will be followed, and teachers will receive materials and handouts for implementing the lessons in their own indoor and outdoor classrooms. The lessons were developed by Project BioLearn, a National Science Foundation-funded project, in collaboration with the ISU Dept. of Biological Sciences and College of Education. All of the lesson plans have a regional environment (the sage-steppe ecosystem) focus and are designed for middle and high school science students. The lessons are available free on a website (hosted by Idaho State University) and are indexed to and aligned with the Idaho Achievement Standards. In addition, teachers who complete the workshop are eligible to check out Vernier probeware, laptop computers, electrophoresis equipment and videomicroscopes from the ISU Project BioLearn science equipment lending program.

Subject areas: Biology, Environmental Education

Grade level: Middle/Junior High, High School

Joyce Sutter, representative, Harcourt School Publishers, Boise, Idaho

Elementary Science, They Love To Get Their Hands On It!

This elementary workshop is designed for teachers for grades 1-5. Participants will have an opportunity to do and take hands on science activities appropriate for those grades. Teachers will also have an opportunity to discuss successful teaching strategies for the elementary classroom.

Subject areas: Earth Science, Biology, Environmental Education, Physical Science

Grade level: Elementary

Marv Tolman, Professor of Elementary Education, Brigham Young University, Provo, Utah

Using Inquiry Activities to Teach Science in the Elementary Classroom

We will do several hands-on activities related to the topics of air and water. These activities are easily adapted to various ages within the elementary grades.

Subject area: Physics

Grade level: Elementary

Michael Wiedenfeld, Research/Technology Teacher, Treasure Valley Mathematics and Science Center, Kuna, Idaho

Dynamic Student Presentations through the Use of Movie-making Software

Ever want to give a news broadcast from Mars?? How about following a bite of a candy bar through the digestive system? Use Windows MovieMaker (free!), Visual Communicator(not free) and/or StudioDV(not free) to provide students with the opportunity to showcase their learning through movie-making. Movie-making provides an alternative to Powerpoint or other electronic presentations and engages students by allowing them to create newscasts that can even include green screen technology. Topics from science, social studies, historical figures and re-enactments, etc. are great ways to utilize moviemaking as a method to showcase student learning. More importantly . . . it's easy!!

Subject areas: Astronomy, Earth science, Physics, Biology, Technology, Chemistry, Environmental Education, Physical Science

Grade level: Middle/Junior High.

Walter Woolbaugh, Region XV NSTA Rep., Manhattan School, Manhattan, Montana

The Magic of NSTA

The goals of this sectional are two fold. One is to acquaint the participants with many of the resources that NSTA provides. Some of these resources include scilinks, a web based series of content specific science topics. The four NSTA journals provide a wealth of content information, inquiry-based science activities, demonstrations, and a vast array of teaching strategies. The science store offers a large assortment of books on a variety of science topics. A second goal of this sectional is to demonstrate a variety of science activities that might be useful in the teaching of science lessons. Whether these are discrepant type events or inquiry-based problems, there should be something for all teachers in all grade levels. All of these activities will be presented using a variety of teaching strategies and a variety of formative assessment techniques.

Subject areas: Astronomy, Earth science, Biology, Chemistry, Physical Science

Grade level: Elementary, Middle/Junior High, High School.