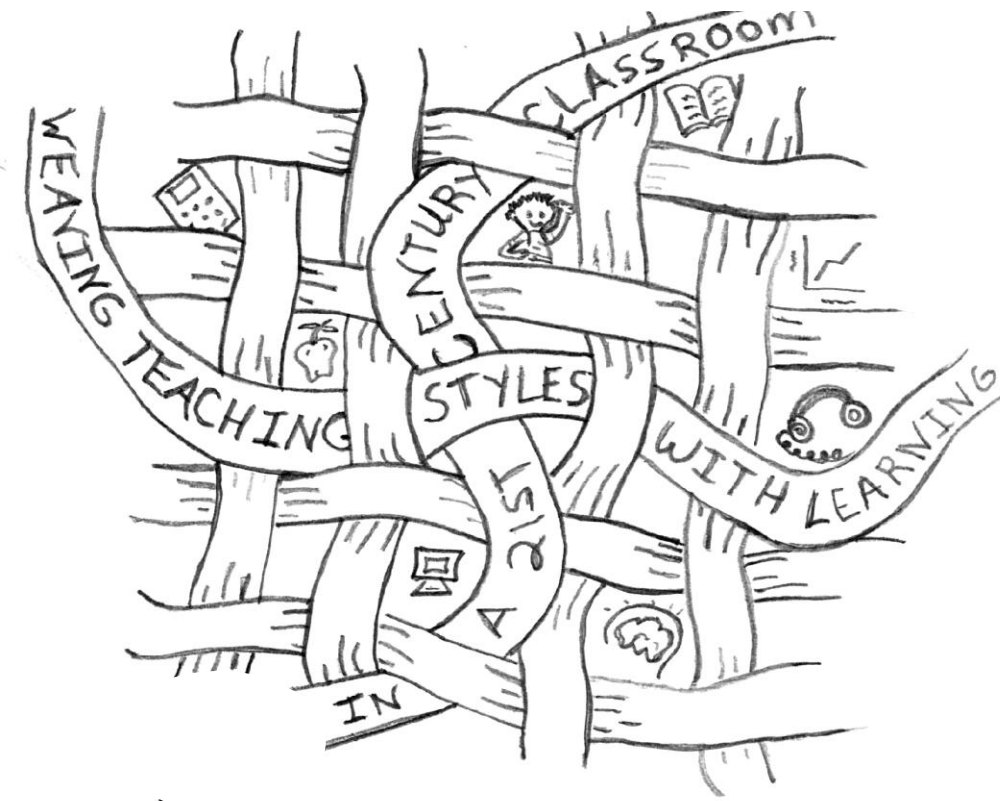


Idaho Science Teachers Association
Idaho Council of Teachers of Mathematics



Fall Conference

October 6-7, 2011

Hillcrest High School

Idaho Falls, Idaho

Welcome!



Conference Keynote – Dr. Kathie Nunley:

“A Student’s Brain: How it Works”

Thursday, October 6, 9:00 am

Dr. Kathie Nunley delights teachers from around the world with her practical and inspirational solutions to the challenges of today’s diverse classrooms. Her popular books and workshops combine classroom experience with her current brain-imaging research. A noted speaker at state, national and international conferences, Dr. Nunley is the author of many books and articles on the brain and teaching in mixed-ability classrooms. Her work has been used by institutions and publications around the world including Family Circle magazine, Canada Living, the Washington Post, and the Boeing Corporation. She is the developer of the Layered Curriculum method of instruction and has spent over 15 years as a classroom teacher in both urban and suburban schools. Her humorous and information-packed keynote address highlights the significant brain issues of concern to educators and parents. This presentation will include an overview of how the brain works, emphasize windows of opportunity in a child’s brain development, and look at the issue of plasticity. The presentation focuses on the challenges and gifts of the adolescent brain with insights as to how to better design classroom instruction for adolescents. Also covered are such hot topics as sleep, visual electronic stimulation, substance use and abuse, and reward systems. Discover some very simple ways to make parenting and teaching more brain-compatible and more enjoyable.

Math Keynote – Gail Burrell: “Refocusing our Classrooms: New Opportunities for Student Learning”

Thursday, 2:15 pm October 6

The Common Core Standards suggest basic mathematical understandings students are expected to learn including standards for mathematical practices. Informed by research, these standards provide opportunities to make our classrooms places where students are doing mathematics in ways that motivate and engage them. Gail Burrell is a secondary teacher and department chair in suburban Milwaukee, Wisconsin. She is currently a mathematics specialist in the Division of Science and Mathematics Education at Michigan State University. She was an associate researcher at the University of Wisconsin-Madison, and while on leave from the University of Wisconsin, she served as President of the National Council of Teachers of Mathematics (NCTM) and as Director of the Mathematical Sciences Education Board. Her honors include the Presidential Award for Excellence in Teaching Mathematics and the Wisconsin Distinguished Educator Award. She was elected a fellow of the American Statistical Association and was awarded an honorary doctorate degree from Rose-Hulman Institute of Technology. She directs the Institute for Advanced Study’s International Seminar as well as the Secondary School Teachers’ Program component of the Park City Mathematics Institute and serves on numerous boards and committees in an advisory



capacity and as chair of the College Board Advanced Placement Calculus Course and Exam Review Commission. She is an instructor for Teachers Teaching with Technology and is a senior mathematics advisor to Texas Instruments Education Technology. Ms. Burrill has written and edited many books and articles on teaching and learning statistics. She has spoken nationally and internationally on issues in teaching and learning mathematics, in particular in conjunction with the International Association for Statistical Education, where she has served on numerous program committees and as editor of several volumes. Her research interests are statistics education, the use of technology in teaching secondary mathematics, and issues related to what it means to teach mathematics.

Plenary Session A – Thursday 1:00 – 2:00



Round Table Discussion - Hillcrest High School Library

“Preparing our Students to be Critical Thinkers”

The panel will address critical thinking and reasoning skills students need to know to succeed after high school, whether in higher education and then into the workforce, or directly into the workforce.

- How do we develop critical thinkers and problem solvers?
- How do we measure or quantify this?
- What changes need to be made in the classroom?
- Is there anything developed that would help teachers develop critical thinking?
- Are there specific examples of what employees need in terms of critical thinking and how it can be achieved?

The Distinguished Panel:

Lawrence Beaty, Interim Executive Director, Energy Systems Technology and Education Center (ESTEC), Idaho State University

Rob Ely, Department of Mathematics, University of Idaho

Billie Johnson, Physical Design Engineer, ON Semiconductor

Angelique Keavney, Human Resources Leader, Idaho Power Company

Richard Pieper, Mathematics Department Faculty, Brigham Young University-Idaho

Hannah Sanger, Environmental Educator, City of Pocatello

Anne Seifert, Idaho National Laboratory

Steven Shropshire, Professor of Physics, Idaho State University

Plenary Session B – Thursday 1:00 – 2:00



Chris Wilson, “21st Century Literacy” Hillcrest Performing Arts Center

This presentation focuses on how science is the ideal context for the 21st century student to develop advanced literacy skills. Literacy skills change over time, and while in the past English has been seen as the center of literacy development, the more visual nature of media has given rise to visual literacy skills that are more naturally explored and developed in the sciences. Using a variety of technologies we will explore together where we are, where our students are, and where we are heading. Specific literacy strategies for the 21st century science teacher will be presented.

Chris Wilson has taught in the Department of Teacher Education of Brigham Young University-Idaho for the last nine years. Each semester he remains connected to junior high and high school classrooms through practicum experience with his BYU-I students. He teaches courses in Educational Psychology, Literacy Through the Content Areas, Introduction to Online Teaching and Learning, as well as courses regarding education and the developing world. His doctoral work was in the field of Comparative International Education pursued at Loyola University of Chicago and he has a Masters degree in Educational Leadership from BYU. He publishes primarily in the field of Comparative Education where he examines educational theories, practices and policies across national and cultural contexts. He is currently exploring what literacy means for students across the globe given the rapid changes ushered in by disruptive technology. In the last year he has traveled to China for research and attended the I-Brain conference as part of this study of literacy and technology’s influence on student approaches to learning.

SPECIAL EVENT FOR FAMILIES, STUDENTS AND TEACHERS!

HILLCREST PERFORMING ARTS CENTER, THURSDAY 7:00 PM




Beth Rich

“LIONS AND TIGERS AND SCIENCE

OH MY!

Beth Rich is the superintendent of the Tautphaus Park Zoo. She knew from a very early age that she wanted to work with animals. She always pestered her parents for various pets and has had dogs, cats, horses, rats, guinea pigs, birds, hamsters, and even a tarantula. Her favorite classes in school were always life science and biology. She was the kid who couldn't wait to dissect a frog! She went to the University of California Santa Barbara and obtained a Bachelor's of Science degree in zoology. From there she worked in a salmon hatchery in Juneau, Alaska, and then came back to San Diego, where she started working at the San Diego Wild Animal Park as a seasonal educator. She knew she was hooked on working in zoos after that. She continued to work in zoo education, eventually becoming a lead educator but then transitioned into more direct animal care. She wanted to make more of a difference for conservation so she blended her passion for conservation and education into an interdisciplinary Master's degree in Conservation Education at San Diego State University. While working on her degree, she was an animal trainer and zoo keeper for the San Diego Zoo and Wild Animal Park. Upon graduation, she decided to develop her career and moved to Racine, Wisconsin, to become the Animal Care Supervisor at the Racine Zoo. Then, in 2009, she came to Idaho Falls to become the General Curator of the Tautphaus Park Zoo. She has done research in the Sea of Cortez, Costa Rica, and South Africa, has consulted for South African and North American Zoos and has traveled to Botswana, Kenya, and Tanzania as well.

THURSDAY OCTOBER 6

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|---------------|--|---|--|--|---|---|
| 7:30 – 8:15 | Conference Registration – Performing Arts Center foyer | | | | | |
| | D93 teachers check in with school Principals | | | | | |
| 8:15 – 8:30 | Welcome: Introductions, conference logistics | | | | | |
| 8:30 – 10:00 | Conference Keynote: Dr. Kathie Nunley “A Student’s Brain: How it Works” HHS Performing Arts Center | | | | |  |
| 10:00 - 10:15 | Break | | | | | |
| 10:30 – 12:00 | Dr. Kathie Nunley: “Differentiating Your High School Classroom with Layered Curriculum” HHS Performing Arts Center | | | | | |
| 10:15 – 11:00 | Ken Bateman “Spuds in Space” All levels Rm 115 | Linda Kay Johnson “Have Fun! Be a Scientist” Middle level Double Session Rm 318 | Debbie Schaefer “New Lili Databases for library research” All levels HHS Media Center (library) | Gail Burrill “Reasoning and Sense Making in Data Analysis and Probability” Rm 213 | Johanna Strange “Working as One with Hands and Mind” Elem/id Double session Rm 114 | Concurrent Workshop Session A |
| | | Cory Bennett “Developing Algebraic Thinking in Grades K-8” Middle level Rm 212 | Kim Zeydal “Interactive Geometry using the TI Nspire CX” High School Double session Rm 215 | Dino Lowry “Bat Studies on the Eastern Snake River Plain” General audience Rm 110 | Alana Jensen “Teach a Child to Wonder: Sharing Nature with Children” Elementary Rm 104 | |

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| 10:15 – 11:00 | Sandy Cardon “Wind Energy in the Classroom” All Levels Rm 102 | Josh Haggerty “Creating an Internet Classroom” Middle/high school Rm 117 | Mickki Nuckols and Patty Horman “Ignite Learning” All levels Rm 320 | Mike Winston “Using your schoolyard as a classroom to teach Life Science” All levels Rm 218 | Steve Shropshire “Lasers, Light, and Illusions” Double session All levels Rm 113 | Session A cont. | | |
| 11:10 – 12:00 | Ken Bateman “Balloon Blastoff” All levels Rm 115 | Linda Kay Johnson “Have Fun! Be a Scientist” Continued Rm 318 | | Gail Burrill “Reasoning and Sense Making in Data Analysis and Probability” All ages Rm 213 | Johanna Strange, “Working as One with Hands and Mind” Continued Elem/middle Rm 114 | Concurrent Workshop Session B | Vendor displays – 7:30 – 4:00 Cafeteria | Green Room – Room 319 Stallknecht Rock Museum – Room 317 |
| | Jean Robinson “Put the Fun in Science” All levels Room 117 | Cory Bennett “Developing Algebraic Thinking in Grades K-8” Elem/mid Continued Rm 212 | Kim Zeydal “Interactive Geometry Using the TI Nspire CX” Continued High school Rm 215 | Sharon Cates “Using technology in the Chemistry Classroom” High school Rm 216 | Amy Christopherson “Reaching out to Parents – Effective Science Outreach” Elem/middle Rm 106 | | | |
| | Erin Tiderman “Oxidative Phosphorylation” High school Rm 118 | Anne Siefert and Louis Nadelson “iSTEM” All levels Rm 320 | Tony Leavitt “Mars Uncovered: Exploring the Geology of Mars” Middle/high Rm 219 | Ralph Peterson “Skulls” Gen/high school Rm 102 | Steve Shropshire “Lasers, Lights and Illusions” Continued All levels Rm 113 | | | |
| | Sam Franklin “Calculator and LabPro Based Data Collection” Middle/high Room 217 | Mike Winston “Using your Schoolyard as a Classroom to Teach Life Science” All levels Room 218 | Virginia Jones Using Ocean Cores to Teach Earth Science” Middle/high Room 116 | Alana Jensen “Teach A Child to Wonder: Sharing Nature with Children” Rm 104 | DaNell Hogan “Electromagnetism for all!” All levels Rm 211 | | | |

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| 12:00 – 1:00 | Lunch – District 93 staff are invited to purchase lunch provided by Hillcrest seniors raising travel funds to serve in an Ecuadorian orphanage. Speakers, vendors and registered attendees - lunch is provided with your lunch voucher ticket. | |
| 1:00 - 4:00 | <p>“Preparing our students to be critical thinkers” Round table discussion with industry and higher education leaders. Sponsored by the Idaho Science and Math Teacher Coalition HHS Library Panel Discussion - 1:00 – 2:00, Informal conversation with panel members from 2:00 – 4:00</p> | Plenary Session 1 |
| 1:00 – 2:00 | <p>Chris Wilson “21st Century Literacy” HHS Performing Arts Center</p> | Plenary Session 2 |

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| 2:15 – 3:00 | <p>Gail Burrill – Keynote “Refocusing our Classrooms: New Opportunities for Student Learning”</p> | <p>Sponsored by the Idaho Council of Teachers of Mathematics HHS Performing Arts Center</p> |
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| 2:15 – 3:00 | <p>Bill Cairns “Science of Energy” Middle/High Rm 113</p> | <p>Linda Hostert “Keeping Kids Safe: An Internet and Mobile Safety Workshop” All levels Rm 106</p> | <p>Christine Avila “Integrating Common Core Standards in Math for Elementary Students” Elementary Rm 212</p> | <p>Wendy Freeman “Fun and Effective Review Games” Middle/High Room 104</p> | <p>Christine Sheridan “Launching into Student-Centered Investigations: Exploring how Air Makes Things Move” Double session Rm 114</p> | Concurrent Workshop Session C | <p>Green Room - Room 319 Stallknecht Rock Museum – Room 317</p> |
| | <p>Alyssa Rodd “Zoo in the Classroom” Elem/middle Rm 318</p> | <p>Fred Gerlach and Keith Richards “It’s Easy to be Digital” Middle/High Rm 320</p> | <p>Julia Abbott and Art Hood “How to Green an Elementary Classroom and Get Your Hands Dirty Doing It” Elem Rm 115</p> | <p>Sharon Cates “Using Technology in the Physics Classroom” High school Rm 216</p> | <p>Amy Christopherson “Black Box Science” All levels Rm 117</p> | | |

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| 2:15 – 3:00 cont. | Vana Richards “Build it and They Will Come” Elem Rm 213 | Mike Bryant “Getting your Hands Dirty:Where Hands-On Meets Digital” Elem/Middle Rm 110 | Wendy Ruchti “Using the NSTA Learning Center” Double session All levels Rm 116 | Elisa Saffle “Questioning: Getting Your Students Involved” All levels Rm 102 | Mike Wiedenfeld “Connecting Teachers and Students Through BSU’s Engineering Cloud Resources” Rm 215 | Concurrent Workshop Session C |
| | Peggy Sharp “Hands-on science for primary students” Double session Early elementary Rm 118 | Richard Pieper “Teaching Perimeter, Area, and Volume Using the Common Core Standards” Double Session All ages Rm 211 | Annie Reichelt “Interactive Science Notebooks” Middle/high Rm 219 | Jean Robinson and Earla Durfee “Wonders of WET...Take the Plunge” All levels Rm 318 | | |
| 3:00 – 3:15 | Break | | | | | Concurrent Workshop Session D |
| 3:15 – 4:00 | Robin Barklund “What Really Happens When Water Boils: Vernier Probes” Middle/high Rm 216 | Roy Bartholomay “United States Geological Survey Research in Idaho” All levels Rm 115 | Anne Stafford “Groupings, Games and Gadgets” All levels Rm 117 | Carla Rudolf “Introduction to the TI-Nspire Handheld” High school Rm 217 | Christine Sheridan “Launching Into Student Centered Investigations” Continued Rm 114 | |
| | Zoe Jorgensen “M&M’s and Pies (graphs)” Elementary Rm 215 | Richard Pieper Continued Rm 211 | DaNel Hogan and Brenda Gardunia “Einstein Fellowship – What a Year” All ages Rm 318 | Sharon Cates “Using Technology in the Biology Classroom” High school Rm 216 | Christine Avila “Integrating Common Core Standards in Math for Elementary Students” Rm 212 | |
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| Vendor displays, Green room, and Stalknect Rock Museum Open | | | | | | |

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| Scott Smith "Idaho Science And Aerospace Scholars" High School Rm 218 | Kim Zeydel and Vana Richards "Presidential Award for Excellence in Mathematics and Science" All levels Rm 213 | Wendy Ruchti "Using the NSTA Learning Center" Continued Rm 116 | L.C. "Chuck" Smith "Summer Science Grant for High School Teachers" High school Rm 104 | Mike Bryant "Getting Your Hands Dirty: Where Hands-On Meets Digital" Elem/middle Rm 110 | Concurrent Workshop Session D | Vendor displays, Green Room, and Stallknecht Rock Museum Open |
| Elisa Saffle "Questioning: Getting Your Students Involved" All levels Rm 102 | Peggy Sharp "Hands-on science for primary students" Continued Rm 118 | Cindy Monson "Food Science" Middle/high school Rm 403 | Catherine Riddle "Radiochemistry and Nuclear Forensics" High School Rm 113 | Margaret Kinzel "Prove It!" High School Rm 219 | | |

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| 4:30 – 6:00 | <p>Idaho Science Teacher Association Awards Reception Celebrate outstanding Science Teachers – Award of state and regional awards. Hors d' oeuvres reception for all ISTA members and conference attendees HHS Media Center (library)</p> <p>Idaho Council of Teachers of Mathematics Awards Reception To be announced</p> |
| 7:00 – 8:00 | <p>Beth Rich - "Lions and Tigers and Science: Oh NO!"</p> <p>Teachers, Students, and Families Welcome!</p> <div style="text-align: center;">  <p>TAUTPHAUS PARK IDAHO FALLS, IDAHO</p> </div> <p>HHS Performing Arts Center</p> |

| Friday, October 7 | | | | | | | | |
|-------------------|---|--|--|--|---|-------------------------------|---------------------------------|---|
| 8:00 | District 93 staff check in | | | | | | | |
| 8:15 – 9:00 | | Sean Short “Integrated Project-Based Learning with Future Cities” Middle Rm 213 | Bill Cairns “Build and Launch your Own Paper Rockets” All levels Rm 117 | Virginia Jones “Google Earth and GPS in the Classroom” All levels Rm 116 | Johanna Strange “Hands-On, Minds-On Science Using DELTA Science Modules” Elem/Middle Rm 114 | Concurrent workshop session E | Vendor displays – HHS Cafeteria | Green Room – Rm 319 Stallknecht Rock Museum – Room 317 |
| | Linda Hostert “Keeping Kids Safe: Internet and Mobile Safety Workshop” All levels Rm 211 | Annie Reichelt “Interactive Science Notebooks” Middle/high Rm 118 | Matt Dyorich “Got Engagement” Middle/high Rm 320 | L.C. “Chuck” Smith “Summer Science Grant for High School Science Teachers” High school Rm 104 | Lois McDonald “4.6 Billion Years of Idaho Geologic History in 45 Minutes” Middle/high Rm 212 | | | |
| | David Sanford “Body Language SHOW!” All levels Rm 102 | Mike Bryant “Getting Your Hands Dirty: Where Hands-On Meets Digital” Elem/middle Rm 110 | Ralph Peterson “Skulls” High School Rm 218 | Aimee Schroeder “Genetics: Crazy Traits and Adaptation Survivor” Middle/high Rm 216 | Laurie Cavey “Introduction to GeoGebra” Double Session High school Rm 219 | | | |

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| 9:00 – 10:15 | <p>UESTA Rock Raffle - Purchase chances for your favorite samples! Fundraiser for the Idaho Earth Science Teacher Association</p> |
| | <p>Rocket Launch activity – Compete for the longest distance and most accurate trajectory. Be inventive! Design and fly your own paper rockets! Room 117 and south side of the building</p> |
| | <p>Vendors open until noon!</p> |

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| 10:15 – 11:00 | Judy Young "Math's a Game" Double session Middle school Rm 106 | Dr. Todd Reese "A Healthy Heart and Lungs in 10 Minutes a Day" All levels Rm 318 | Tony Leavitt "Mars Uncovered: Explaining the Geology of Mars" Middle/High Rm 115 | Ralph Peterson "Non-Confrontational Evolution" Middle/high Rm 218 | Tracy Landrum "DELTA Education's Idaho K-6 Science Program" Elementary Rm 114 | Concurrent Workshop Session F | Vendors, Green Room, and Stalknecht Rock Museum Open |
| | David Sanford "Body Language SHOW" All levels Rm 102 | Aimee Schroeder "Chemistry and the Atom: Fun with Atom Building Games" Middle/high Rm 216 | Mikki Nuchols and Patty Horman "Ignite Learning" All levels Rm 212 | Kim Zeydal "Turning At-Risk Students on to Math" Double session High school Rm 215 | Laurie Cavey "Introduction to GeoGebra" High School Rm 219 | | |
| | Dino Lowrey "Idaho Bat Studies" All levels Rm 110 | Curt Thomas "FIRST Robotics" High School Electronics room North 300 hall | Brenda Gardunia "A Hands-On Approach to Functions" Middle/high Rm 211 | L.C. "Chuck" Smith "Summer Science Grant for High School Science Teachers" High school Rm 104 | Virginia Jones "GIS in the Environmental Science Classroom" High School Rm 116 | | |
| | Jake Jacobson "System Dynamic Modeling in the Classroom" Middle/high school Rm 113 | Sean Short "Integrated Project-Based Learning with Future Cities" Middle Rm 213 | | | | | |

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| 11:15 – 12:00 | Kim Zeydal "Turning At-Risk Students on to Math" Continued High school Rm 215 | Judy Young "Math's a Game" continued Middle school Rm 106 | Dr. Todd Reese "Nutritional Neurology-Overlooked Nutrients that Can Kill Your Brain" Rm 318 | Michael Brune "Engaging Math and Science Students With Modeling and Simulation" Rm 104 | Christine Sheridan "Taking Science Outdoors Featuring FOSS Elementary" Elem/middle Rm 114 | Concurrent workshop session G | Displays Open |
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| | Danel Hogan "Electro-magnetism for All" All levels Rm 118 | Scott Smith "Idaho Science and Aerospace Scholars" High School Rm 320 | Lois McDonald "4.6 Billion Years of Idaho Geologic History in 45 Minutes" Rm 212 | Virginia Jones "New Horizons Mission to Mars" All levels Rm 116 | Angela Hemingway "Start Your Own STEM Club" High school Rm 110 | Workshop Session G | Vendors, Green Room, Stallknecht Rock Museum Open |
| | Zoe Jorgensen "Mind Your Matter" Elementary Rm 115 | Sandy Cardon "Wind Energy in the Classroom" All ages Rm 102 | Josh Haggerty "Creating an Internet Classroom" Middle/high Rm 117 | Lourene Anawalt "The Language of Math" Rm 213 | Erin Johnson "Playing with Fire – Thermodynamics and Fun" Middle/highschool Rm 216 | | |

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| 12:00– | ISTA Business Lunch – HHS Media Center | |
| | ICTM Business Lunch – Room 113 | |
| 1:00 – 4:00 | Field Trip: Mike Winston North Bingham County Environmental Field School Sign up in Mike’s workshop sessions or at the ISTA table | Field Trip: Van Ashton Idaho Falls Hydroelectric Plant Sign up at the ISTA table |

MANY THANKS TO OUR MAJOR SPONSORS WHO HELPED MAKE THIS CONFERENCE POSSIBLE!

Bonneville Joint School District #93
Idaho National Laboratory
North Wind Inc.
Idaho Dairy Council

Concurrent Workshop Descriptions – alphabetical by speaker

Abbott, Julia and Art Hood: “Learn How to Grow Fruits and Vegetables in Your Own School Greenhouse.”

We will show pictures of building our green house from the ground-up with help from students, parents, and Rimrock Elementary school staff. We will distribute names of local agencies that help fund green grants and copies of grants will be available to those interested. We will show how the fourth and fifth grade students plant, water, and sell all greenhouse flowers and veggies. All containers and pots that we use in the greenhouse are reused containers/cartons the students bring from home. All revenue made goes back into our greenhouse fund and science activities. We are hoping to have some fresh samples to share also. elementary, Session C, room 115

Anawalt, Lourene: “‘The Language of Math’ ‘In this workshop we will look at some excerpts from the "Holistic Math" book by Johnson and "The Language of Mathematics" book by Esty. We look at what it means to "cancel" to "cross multiply" and other mathematical terms. We will look at some common mistakes and some rules that would correct those mistakes. This is for Pre-Algebra and Algebra teachers. Session G, room 213

Avila, Christine: “Integrating Common Core Standards with Math for Elementary Students” The new Common Core Standards will present new challenges for our students. This workshop will present ways to integrate these standards into the elementary mathematics program. Elementary, Sessions C and D (repeat), room 212

Barklund, Robin: “Exploring Science Labs with Vernier” This workshop is designed with the Vernier novice in mind. You will be introduced to the LabQuest hand-held data collecting interface working independently and in conjunction with Vernier’s award-winning LoggerPro software. These tools enable students to experience data display in real-time and to analyze collected data in multiple ways to gain deeper understanding from their science lab experiences. After a short introduction to the capabilities and operation of the LabQuest and the LoggerPro software, participants will perform a Water Freezing Experiment to get some hands-on experience with this equipment. High school, Session D, room 216

Bartholomay, Roy: “U.S. Geological Research in Idaho” Roy Bartholomay of the United States Geological Survey (USGS) Idaho National Laboratory Project office will introduce Idaho Teachers to the various types of research the USGS does nationally and then highlight some of the educational tools the USGS provides on its public website. He will then highlight some of the work being done locally in Idaho dealing with stream gaging, measuring ground water levels, collecting water samples, well drilling, and collecting geophysical and video logs. He will conclude his presentation with information on the education level, salary, and benefits that USGS employees enjoy. All levels, Session D, room 115

Bateman, Ken: “Spuds in Space” Design and outfit your potato astronaut in gear that will protect him or her from being hit by small meteoroids. All levels, Session A, room 115

Batemen, Ken: “Balloon Blastoff” Learn about how engineering concepts can fit into any school curriculum. Explore Science, Technology, Engineering, and Math activities and opportunities available through ASME. Design a futuristic transportation device that will hold the most people (pennies) possible (minimum of 4) and move across the room as fast as possible.” All levels, Session B, room 115

Bennett, Cory A: “Developing Algebraic Thinking in Grades K-8” Success in higher level mathematics requires a solid foundation of number sense, pattern recognition, and the ability to generalize relationships between patterns; cornerstones to algebraic thinking. Algebra, as a content area, has been referred to as the gateway to higher level mathematics and thus a fluid application of these cornerstones is necessary for future mathematical

success. Therefore, algebraic thinking should begin during the earliest years of schooling. This presentation will focus on helping students develop their algebraic thinking from grades K-8 and provide specific examples of implementation throughout this grade span. All levels, Sessions A and B (double session), room 212

Brune, Michael: “Engaging Math and Science Students with Modeling and Simulation” Teachers who attend this session will hear from three Idaho educators who spent two weeks working with NASA engineers. Those attending will gain insight into the multitude of modeling and simulation resources available. This will include examples of lessons that can be applied in classes as advanced as calculus and physics, to classes that are traditionally taught in 7th-8th grade such as algebra and earth science. Teachers will leave with a lesson ready for immediate use as well as resources for building their own lessons in the future. There may even be a rocket launcher involved!
Middle/high school, Session G, room 104

Bryant, Mike: “Getting Your Hands Dirty: Where Hands-On Meets Digital” Science class is just not science class without hands-on activities. Getting “down and dirty” in the pursuit of knowledge can bring even the most reluctant student to the table. Using digital media in conjunction with hands-on activities can really bring your lessons alive and computer simulations bring experiences not otherwise available to your students. This session will show you the power of using simulations and digital media to either introduce or reinforce the hands-on experience, tying it all together in a nice, neat package that all students will want to unwrap! Elem/middle, Sessions C and E (repeated), room 110

Burrell, Gail: “Reasoning and Sense Making in Data Analysis and Probability” Most students do not understand what variability means, have little intuition about sampling and randomness, and struggle with statistical reasoning. The session will engage participants in activities designed to develop an understanding of fundamental statistical concepts using interactive dynamic software. High school, Session A, Rm 213

Cairns, Bill: “Science of Energy” Learn more about the forms of energy transformations using lessons and demonstrations from NEED’s Science of Energy Kit. The lessons are inquiry based and provide students with the foundational understanding of kinetic and potential energy and the way one form of energy transforms into another. All levels, Session C, room 113

Cairns, Bill, “Inquiry Science Through Rocket Building” Participants will explore inquiry science by building and firing paper rockets. The session will explore how to conduct this activity in your classroom. Everybody is welcome to join in the fun between sessions E and F. Come build and shoot off your own paper rockets! All ages, Session E, room 117

Cardon, Sandy: “Wind Energy in the Classroom” Participants will learn about online wind turbine data, lesson plans, and other teaching materials available for incorporating wind energy into their curricula. All ages, Sessions A and G (repeated), room 102

Cates, Sharon: “Using Technology in the Biology, Chemistry/Physics Classroom” These are three different workshops, each one focusing on a specific content area. The workshops use various technologies including Vernier probes, TI-Nspire calculators and Einstruction tablets, to show how teachers can make demonstrations more interactive and engaging using technology. There will be door prizes for each session. High School
Chemistry – Session B, room 216
Physics – Session C, room 216
Biology – Session D, room 216

Cavie, Laurie: “Introduction to GeoGebra” GeoGebra is an alternative to Geometer’s Sketchpad that is available online for free. Come learn the basics of the software and some ideas for how to use it to engage students in learning mathematics topics from Algebra I to calculus. High school level, Sessions E and F (double block session), room 219

Christopherson, Amy: “Reaching out to Parents - Effective Science Outreach” In today’s classrooms, your secret weapon is your parents! Their talents, skills, and vested interest in their child’s academic experiences can really benefit students and teachers alike. I have had the opportunity to spend ten years in my kids’ classrooms, and now I take science outreach all over the Magic Valley. I teach scientific principles with household materials, but I also have the Black Box! Science is everywhere! All levels, Session B, room 106

Christopherson, Amy: “Black Box Science – Teaching Scientific Method” Challenge students to use develop their observation and reasoning skills while teaching scientific inquiry. The Black Box is an engaging technique that grabs students’ attention. They must puzzle out its secrets by forming their own hypotheses and tests. All levels, Session C, room 117

Dyorch, Matt, “Got Engagement?” This workshop is a strategy session for engaging students in class and personalizing the curriculum so they develop life skills. This workshop is based on years of experience in teaching through a project based curriculum. It works! Middle/high school, Session E, room 318

Franklin, Sam: “Calculator and LabPro Based Data Collection” This workshop will present information regarding use of the Labpro interface for data collection and analysis through TI-84 calculators and/or laptop computers. The hardware we will be working with has been awarded to Valley School through the Qwest Foundation and INL grant awards. Information on these opportunities will be made available. Mid/High school general audience, Session B, room 217

Freeman, Wendy: “Fun and Effective Review Games” This is a class which can be of interest to both elementary and secondary teachers. It will give you ideas for many games which can be utilized for review, reteaching, reminding and remediating students in different subject areas. These have been used in my classroom for years and work to keep the students interested and engaged. All levels, general audience, Session C, room 104

Gardunia, Brenda: “A Hands-On Approach to Functions” Using a piece of string and container of water, participants will experience a hands-on lab that takes the mystery out of functions for first year algebra students.” Middle school/high school, Session F, room 211

Gerlach, Fred: “It’s Easy to go Digital!” Looking for new ways to prepare your students using 21st Century STEM initiatives? Go Digital! The future of science classrooms and workplaces is digital technology. Prepare your students for this future by incorporating Swift digital microscopes and cameras and MOTIC software into your STEM curriculum. Get students involved digitally. Learn how to integrate digital technology into your current teaching. All levels, Session C, room 320

Haggerty, Josh: “Creating an Internet Classroom” This course will explain the process of starting an internet based classroom. Teachers will be able to create personalized online classrooms and explore the features available. Middle/high school, Sessions A and G (repeated), room 117

Hemingway, Angela: “Start your own STEM Club!” I started a STEM club at Kuna High School four years ago and the membership has gone from 30 students the first year to over 190 students this year. We have been named High School Club of the Year for the past two years. I would love to share the successes and challenges of starting

a club. You could use the same ideas when you are ready to start your own club. The kids truly appreciate it.
High School, Session G, room 110

Hogan, DaNel: “Electromagnetism for All! Have you ever tried to teach about electricity and magnetism? Come and play with this great hands-on lab that allows you to teach about magnetism and electromagnetism. This activity can be modified for any grade level and complexity. This is a lab your students will want to play with beyond lab time! See the world’s simplest electric motor and prepare to be impressed! All levels, Session B, room 211 and Session G, room 118

Hogan, DaNel and Brenda Gardunia: “Einstein Fellowship – What a Year!” K-12 STEM teachers are encouraged to apply for this amazing experience. Come learn more about the Albert Einstein Distinguished Educator Fellowship – a year in Washington, DC, the application process, tips and pointers. All levels, Session D, room 318

Hostert, Linda: “Keeping Kids Safe: An Internet and Mobile Safety Workshop” This powerful program uses the latest statistics, resources, videos, and expert tips to convey the must-have information that parents need in order to educate, engage with, and protect their children in today’s digital world. This workshop is specifically designed to give parents and trusted adults a clearer understanding of the issues kids are facing, the resources they need to better communicate with kids about making safer decisions, and an overview of technology to help parents protect their children from predators and bullies and to help them manage their child’s privacy and reputation online. All levels, Session C room 106 and Session E room 211

Jacobson, Jake: “System Dynamics Modeling in the Classroom” System dynamics and systems thinking hold great promise for fundamentally improving K-12 education at a time when schools are under intense pressure to better prepare students to thrive and contribute in a rapidly changing global economy. Exposure to system behavior at a young age can prepare students to deal effectively and compassionately with the dynamically complex social, political, environmental, and economic problems facing them. This session will introduce how to use system dynamics modeling in the classroom. There will also be a discussion on the resources available to help teachers prepare to use system dynamics in their curriculum. Mid/High, Session F, room 113

Jensen, Alana: “Teach a Child to Wonder: Sharing Nature with Children” During 10 years of sharing outdoor five basic tenets of outdoor teaching taken from Joseph Cornell’s “Sharing Nature with Children”:

Teach less and share more

Be receptive

Focus the child’s attention without delay

Look and experience first; talk later

A sense of joy should permeate the experience.

Come learn how to implement these five basic rules to inspire your students wonder about nature.

Elementary/middle school, Sessions A and B (repeated), room 104

Johnson, Erin: “Playing with Fire – Thermodynamics and Fun” Session G, Room 216

Johnson, Linda Kay: “Have Fun! Be a Scientist!” Interactive science is so personal, relevant and engaging. Come and experience middle school level hands-on activities – classroom ready. Be a scientist and experience and learn about inquiry in science through engaging activities. Envision it. Try it. Explore it. Investigate it. Apply it. Fun for All!” Middle School, Sessions A and B (double session), room 318

Jones, Virginia: “Google Earth and GPS in the Classroom” Use GPS units to gather data and make personalized maps in Google Earth. Learn how to teach students to make an educational tour in Google Earth. Middle/high school, Session E, room 116

Jones, Virginia: “Using Ocean Cores to Teach Earth Science” Learn how to use the data from ocean cores to teach everything from Plate Tectonics to Climate Change. Find out how ocean core data has provided evidence for nearly all of the latest discoveries in Earth Science. Learn how you can borrow free ocean core teaching kits and apply for new adventures aboard the JOIDES Resolution. Free posters and teaching aids Middle/high school, Session B, room 116

Jones, Virginia: “GIS in the Environmental Science Classroom” You will learn how to find useful GIS data and download and use ArcExplorer Java Edition for Education (AEJEE). If interested, there is the possibility of further free in-service training. High school, Session F, room 116

Jones, Virginia: “ New Horizons Mission to Pluto and Beyond: A Spacecraft with an Idaho Connection” Learn about the New Horizons spacecraft and its mission. Free classroom lessons, posters and DVDs. All ages, Session G, room 116

Jorgensen, Zoe: “Mind your Matter” Hands on ideas and activities to help you teach states of matter to elementary students. Elementary/middle school, Session G, room 115

Jorgensen, Zoe: “M&Ms and Pies (graphs)” Common Core standards require students to be able to chart data in multiple types of graphs. This class will address the use of stem-leaf plots, and box-whisker charts, and will provide a make and take manipulative to teach students to create accurate pie graphs. All levels, session D, room 215

Kinzel, Margaret: “Prove It!” How do you know that your students understand? The Common Core Standards encourage an increased attention to reasoning and proof in the classroom. We will present a research-based definition of proof that can guide teachers’ instructional decisions. We will also share a framework for evaluating your curriculum’s potential to support students’ development of reasoning and proof. Session D Rm 219

Landrum, Tracy: “Delta Education’s Idaho K-6 Science Program” Participants attending this workshop will experience Delta Education’s K-6 Science Program for Idaho first hand. Teachers will have the opportunity to see how the Idaho standards come alive with Inquiry and rich informative text. Come have fun with hands-on activities that will get your students excited about science! Each participant will be given a Delta Science reader. Elementary/middle, Session F, room 114

Leavitt, Tony: “NASA: Mars Uncovered – Exploring the Geology of Mars” This activity will guide students through an inquiry-based critical thinking approach to studying the surface of Mars in a manner similar to the approach taken by scientists. Students will learn to classify craters and use two relative age dating principles that will enable them to interpret the history of a region on Mars. Middle/high school, Sessions B room 219 and session F (repeated), room 115

Lowry, Dino: “Bat Studies on the Eastern Snake River Plain” Learn about ongoing research into bat populations living in lava tubes on the Eastern Snake River Plain. This is an opportunity to explore the nature of science through actual research. This engaging presentation has been given to many school audiences. The kids love it! All ages, Sessions A and F (repeated), room 110

McDonald, Lois: “4.6 Billion Years of Idaho Geologic History in 45 Minutes” A very brief overview of Idaho geologic history. Many forces, relative position of the equator, plate tectonics, epeiric seas, accretion, continental extension, and glacial events left significant impact on the Idaho of today. Many of these events explain the diversity of geology across the state. All levels, Sessions E and G (repeated), room 212

Monson, Cindy: “Food Science” The great thing about Food Science is that we can eat our experiments. In this workshop you will learn science experiments your students can do in the classroom and technology resources that you can utilize when teaching science. Middle/high school, Session D, room 403

Nuckols, Mikki and Patti Horman “Ignite Learning” "Engage students in their own learning through the use of teaching strategies and learning structures that can be used routinely and with little teacher preparation." all levels, Session A room 320 and Session F room 212

Nunley, Kathy: “Differentiating your High School Classroom with Layered Curriculum” Today’s schools and classrooms can be overwhelming in their diversity. Whether you are preparing students for higher education, working with special needs populations, or juggling same old standards, research is clear that differentiated classroom is better than the traditional “stand and deliver.” The secret to successful differentiating for secondary classrooms is establishing and maintaining more student-centered programs of learning. Simple, practical, and easy to adapt, Layered Curriculum allows teachers to juggle learning styles, multiple intelligences, cultures, and mixed-abilities in one room without sacrificing standards. This three-layered instructional model leads all students to higher levels of thinking, holds students accountable for learning, and encourages success for even the most reluctant learners. Middle/High school, HHS Performing Arts Center

Peterson, Ralph: “Skulls” Why do scientists think we have a common ancestor with apes? Come and find out as we examine characteristics of skulls and what they mean. General audience/High School level, Session B, room 102 and Session E room 218

Peterson, Ralph: “Non-Confrontational Evolution” Once students understand the nature of science, the so-called “controversy” of evolution is diminished. The workshop will cover the National Academy of Science definitions of fact, hypothesis, theory, and law. There will be short hands-on activity to emphasize the points given. High School /General Audiences, Session F, room 218

Pieper, Richard: “Teaching Perimeter, Area, and Volume Using the Common Core Standards” using the standards for mathematical practice found in the common Core Standards can help us to reach all learners and make our classrooms more engaging. Come and get some ideas and activities that go beyond just memorizing formulas and help students’ build deeper understanding of these three important math concepts. All ages, Sessions C and D (double block), room 211

Reichelt, Annie: “Interactive Science Notebooks” INB’s are an organizational tool students use daily. INB’s enable students to keep all their work in one place throughout the school year, which is helpful for studying and parent teacher conferences. INB’s allow for teachers to monitor overall growth in class in a simple and effective way. Interactive notebooks are an effective way to eliminate most classroom management issues that occur during the first few minutes of class. To see how notebooks are implemented and used as an effective teaching tool attend the workshop. Middle/high school, Session C room 219 and Session E room 118

Reese, Dr. Todd: “A Healthy Heart and Lungs in 10 Minutes A Day.” Is your treadmill killing you? Are your lungs dying despite exercising 30 minutes, 3 days per week? Why most people have lost 40% of their lung volume by age 50. What can you do to build lung volume and energy? All audiences, Session F room 318

Reese, Dr. Todd: "Nutritional Neurology - Overlooked Nutrients That Can Kill Your Brain" Vitamin D versus a flu shot; how to NOT get the flu this year. Explore issues in pandemic flu preparedness, and in cleansing your brain. Dr. Todd Reese has lectured for many state organizations and to countless audiences around the state. A practicing chiropractor for 10 years, he is currently writing two books on heart health and nutrition. His lectures are full of useful information that can help you live a fuller and more productive life. All audiences, Session G room 318

Richards, Vana: "Build it and They Will Come" This workshop will show participants how to organize a successful affordable Science Family Night from the planning stages through the actual night. My school has two NASA Family Nights a year with an attendance of 250 – 350, and our school only has 410 students. Teachers will make and take activities that can be used at a family night or in a classroom that encompass developing design, data collection, and inquiry. Elementary, Session C, room 213

Riddle, Catherine: "Radiochemistry and Nuclear Forensics" Nuclear forensics melds traditional crime-busting technology with radiological science. Using scientific analysis, it seeks to determine the physical, chemical, elemental, and isotopic characteristics of nuclear (or radiological) material of unknown origin. Nuclear forensic analysis can provide information about how the nuclear material was produced or chemically separated, where it was produced, its original intended purpose, and possibly who originally produced it. High school, Session D, room 113

Robinson, Jean: "Put the 'Fun' in Science!" Learn the "Magic of Ice Cream," "Snake Tectonics" and other fun and easy ideas for exciting lab experiences in your classroom. Your students will never forget their FAVORITE science teacher! General Audiences, Session B, room 117

Robinson, Jean and Earla Durfee: "Wonders of WET....Take the Plunge" Take the plunge into Project WET which is Water Education for Teachers. You don't have to know anything about science to come to this session. Language arts, government, history and geography topics will be addressed through the "Wonders of Project WET"! all audiences, Session C, room 318

Rod, Alyssa, Curator of Education, Tautphaus Park Zoo: "Zoos in the Classroom" Zoos are a great resource for information about animals, habitats, and conservation work. Whether your class can come to the zoo, or the zoo comes to you; these are important topics for any science class. Come and be inspired by what the Tautphaus Park Zoo can offer you now and in the future. Elementary/middle school, HHS Performing Arts Center

Ruchti, Wendy: "Using the NSTA Learning Center" During this workshop, the features of NSTA'S Learning Center e-professional development portal will be explored. The resources available help teachers address classroom needs even with their busy schedules. Teachers can gain access to more than 6,500 different resources that cater to their preference for learning. Over 2,000 resources, such as journal articles, science objects, podcasts, and web seminars are available free. Other resources are free with NSTA membership and others require a fee. The presenter will walk the participants through ways to increase their content and pedagogical knowledge through the resources available. Also, the presenter will show a suite of practical tools including My Library, to collect your resources, as well as My PD Record, My Professional Development Plan and Portfolio, and My DD Indexer which can help you organize, personalize, and document your professional growth over time. All levels, Sessions C and D (double) room 116

Rudolf, Carla: "Introduction to the TI-nSpire handheld" Participants will explore the capabilities of the TI-nSpire handheld and will be given information on how to access free, premade, action-consequence handheld documents

and corresponding student worksheets. Students manipulate the documents and are engaged as they see the mathematics come to life. Students then record their observations on the worksheet. Teachers will see the use of the TI-nSpire Emulator and the benefits it has if no class set of TI-nSpire handhelds are available. High school, Session D, room 217

Saffle, Elisa: “Questioning: Get Your Students Involved” This session will look at the use of questioning strategies to increase rigor and student engagement. Strategies for asking questions and getting students to ask questions will be addressed. General Audience, Sessions C and D (repeated), room 102

Sanford, David: “Body Language SHOW!” Ninety three percent of our communication is non-verbal. Reading body language is a skill to find answers and solutions. To begin reading body language you must remove judgment and see movements as indicators. When you see movement, the next step is to ask GREAT questions. While you are speaking, the brain prepares and organizes 450 words per minute to say. At the last moment, our consciousness filters this down to 150 words. These hidden words show up in body language. Come learn the key indicators to look for in yourselves and others to better communicate.” All levels, Sessions E and F (Double Session), room 102

Schaefer, Debbie: “New Library Databases Available for Students and Teachers” Since LiLi (Libraries Linking Idaho) has changed looks and contents this year, we will be taking a hands-on look at the various databases. Teachers will be able to use the library computers for access to LiLi during the instruction., All levels, Session A, HHS Media Center (library)

Schroeder, Aimee: “Chemistry and the Atom: Fun with Atom Building Games!” Our understanding of matter is so abstract that students have a hard time making sense of these fascinating concepts. In this workshop, you will experience innovative games and activities that give students with different learning styles opportunities to explore and grasp atomic structure and the periodic table. From CPO Science Middle/High School, Session F, room 216

Schroeder, Aimee: “Genetics: Crazy Traits and Adaptation Survivor” Students learn new vocabulary when they study genetics such as: traits, alleles, and genotypes. How can you predict the traits of offspring when you know the genetic makeup of the parents? These ideas will come alive as you create crazy creatures with a unique kit, and study the resulting population. Mid/High school, Session E, room 216

Sharp, Peggy: “Hands-on science for primary students” This will be a take-and-make workshop for 1st and 2nd grade teachers in District #93. Participants will receive science and reading materials for a science unit that can be integrated into their reading program. Limit 20 teachers. Early elementary, Sessions C and D (double block), room 118

Sheridan, Christine: “Taking Science Outdoors featuring FOSS Elementary” Learn about the ground-breaking work done by the Boston Schoolyard Initiative and the FOSS Project now available on FOSSweb. Explore how to use effective strategies to engage children in powerful science learning experiences in their own schoolyards and local outdoor environments. Participants will go outside to engage in investigations. The new Taking FOSS Science Outdoors Folio and outdoor lesson plans will be distributed. Elementary/middle school, Session G, room 114

Sheridan, Christine: “Launching into Student-Centered Investigations: Exploring how Air Makes Things Move featuring the FOSS Elementary Air and Weather Kit” Explore how young students best learn both science concepts and processes while you experience the excitement of first-hand investigations on how to use air pressure to launch a syringe "rocket". You will also design and make a parachute sail in the air. Participants receive

an overview of FOSS, lesson plans, materials, and the Air and Weather student book. Elementary, Session C and D (double block), room 114

Short, Sean: “Integrated Project-Based Learning with Future Cities” The Future City competition is a national, project-based learning experience where students in 6th – 8th grades use the engineering design process to imagine, design, and build cities of the future. Students work as a team with an educator and engineer mentor to plan cities; research and write solutions to a real-world engineering problem; build scale models with recycled materials; and present their ideas to regional and national judges. The program is sponsored by the National Engineers Week Foundation, a formal coalition of more than one hundred professional societies, major corporations and government agencies, dedicated to ensuring a diverse and well-educated future engineering workforce. Join us as we explore the exciting integration of Future Cities into the middle school science and technology classroom as an exciting project-based learning experience. Discover how students are naturally motivated as they apply math, language arts and science concepts to real-world issues; develop writing, public speaking problem solving, and time management skills; research and propose solutions to enticing engineering challenges; discover different types of engineering and explore career options; learn how their communities work and become better citizens; and develop strong teamwork skills. Middle School, Session E, room 213

Shropshire, Steve: “Lasers, Light, and Illusions” Participants will make corner reflectors, laser light show drums, a Pepper’s Ghost illusion demo, and other simple devices for use in teaching about light and lasers. Demonstrations will be provided on reflection, refraction, and the nature of light, using common household materials for use in classroom activities. Discussion will focus on the use of these constructions and demonstrations to address state standards on concepts of physical science, scientific inquiry, and on unifying concepts of science for grades 1 through 6. Teachers will take home all items they construct as well as a laser pointer. Participants will also be provided with a list of related resources in print and on the web. Elementary/middle school, fun for all ages! Sessions A and B (double block), room 113

Seifert, Anne & Nadelson, Louis: “i-STEM” STEM literacy has evolved in Idaho through the i-STEM initiative. Learn more about how key stakeholders have come together to support teachers through the i-STEM initiative in Idaho. Explore the opportunity to participate in K-12 educational professional development institute to be held in July, 2012; a unique expense paid opportunity to receive training, information, classroom STEM kits, and hands-on activities with materials to teach students about various science, technology, engineering, and math (STEM) related topics. This is a session you won’t want to miss! All levels, Session B, room 320

Smith, L.C. “Chuck”, M.J. Murdock Charitable Trust: “Summer Science Grant for High School Science Teachers” Investigate an opportunity to work with a researcher for two summers doing cutting edge research. Teachers are paid a stipend and other incentives apply. A grant to the teachers may be available after the second summer. High School Level, Sessions E and F (repeated), room 104

Smith, Scott: “Idaho Science and Aerospace Scholars” This presentation will detail the Idaho Science and Aerospace Scholars (ISAS) program. A NASA grant provides the State Department of Education the ability to offer an online STEM class for Idaho high school juniors and an opportunity to attend a summer academy at BSU and NASA Ames. Teachers are also recruited to deliver online instruction or as academy mentors. High School level, Session D room 218 and Session G room 320

Stafford, Anne: “Groupings, Games, and Gadgets” How do your students choose partners to do projects with? How do you celebrate high quiz and test scores? How would you present creative and colorful content? Come and find out! Share your twist on an idea. It’s all fun and games here! General audience, Session D, room 217

Strange, Johanna: “Working as One with Hands and Mind” Students learn best when their minds and their hands are engaged in classroom activities. Using a problem-solving approach to teaching provides students this kind of learning. We will involve you in science and technological design activities that illustrate a variety of problem-

solving strategies that promote real learning in the classroom. All levels, Sessions A and B (double block), room 114

Strange, Johanna: “Hands On, Minds On Science using Delta Science Modules (DSM)” This workshop will involve you with all parts of the DSM program including hands-on activities, literacy connections, kit components, assessments and ideas for building a K-8 standards-based curriculum. Participants will receive literacy samples and activity resources. Elementary/middle school, Session E, room 114

Thomas Curt: “FIRST and STEM” Teach STEM subjects through FIRST Robotics. Learn from the successful experiences of the Ammonknights FIRST Robotics team. High School, Session F, Electronics room – north end of the 300 hallway.

Tiderman, Erin: “Oxidative Phosphorylation (i.e. Electron Transport Chain) Made Easy” A hands-on activity focusing on one of the more difficult concepts in biology: cellular respiration. I designed this activity with fifteen kits so teachers can work in groups of two. Teachers will work together using an inquiry-based approach to figuring out the major steps involved in converting NADH and FADH₂ to ATP. The hands-on activity is supplemented with a hand-out that encourages investigative learning and critical thinking. Teachers can make the kits themselves and will leave the workshop with all the support material to do so. High School, Session B, room 118

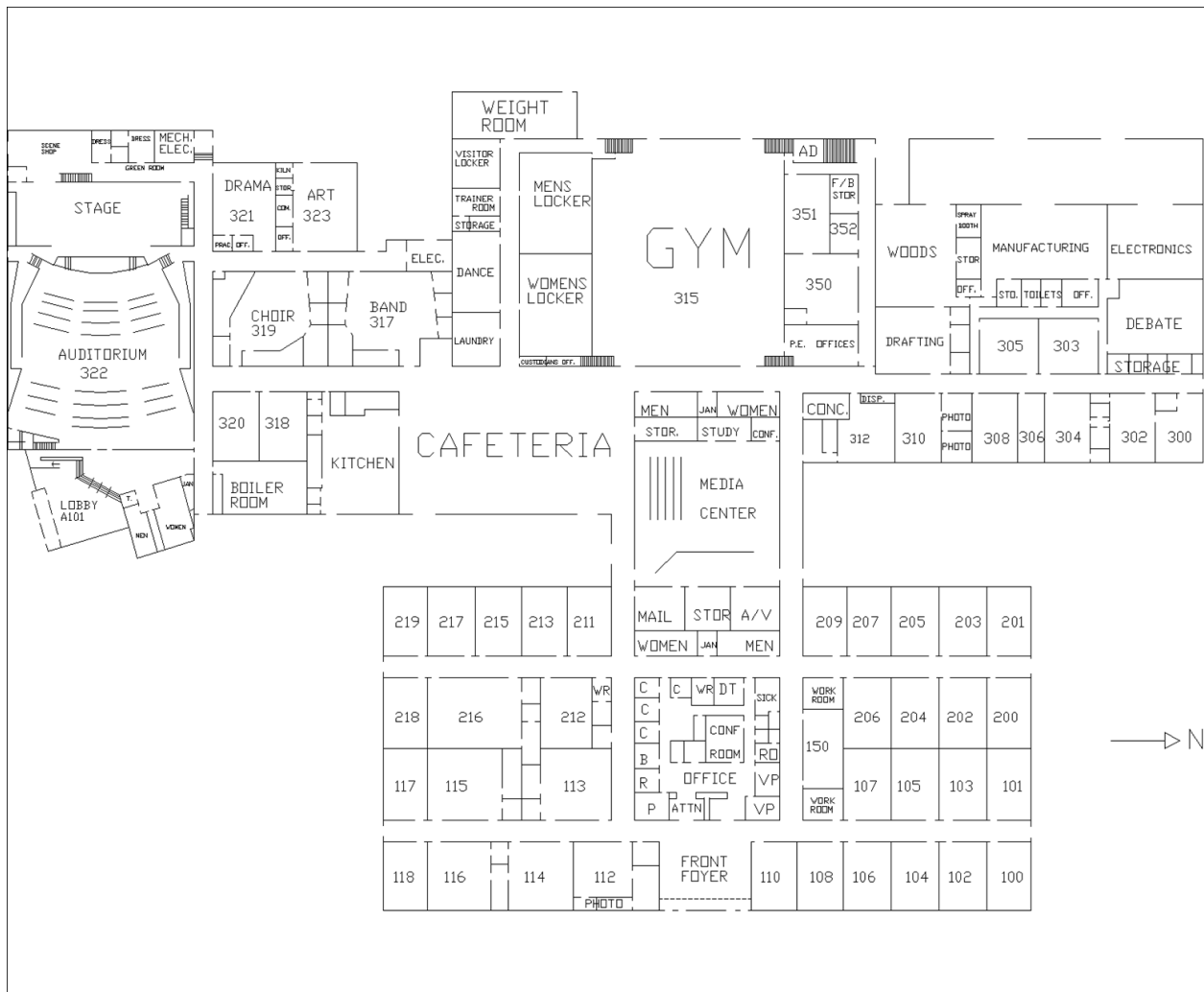
Winston, Mike: “Schoolyards as Classrooms” This is a hands on session showing teachers how to use their local school yard to teach life science. Two different workshops will be presented. A third session will be held at the Bingham County Park in Shelley on Friday afternoon. Please sign up in advance for the Friday session. Transportation to Shelley is on your own. All levels, Sessions A and B (repeated), room 218

Young, Judy: “Math’s a Game” Get students thinking, moving, synthesizing, and collaborating while engaging in games that can be used to introduce, develop, and reinforce math concepts. The games will explore number sense, geometry, probability, and algebraic concepts. Middle school/high school, Sessions F and G (double block), room 106

Zeydel, Kim: “Turning At-Risk Students on to Math” Here is an efficient way to assess and keep your ADHD, shy and disengaged students involved in learning math using the TI-nSpire Navigator. Learn how to ask questions and get feedback from your students to guide your instruction using Quick Poll and Screen Capture. In addition, watch a short video of students using the Navigator, explaining why they like it, and learn tips for grants. High school, Sessions F and G (double block), room 215

Zeydel, Kim: “ Interactive Geometry Using the TI-Nspire CX” Whether you have on TI-Nspire CX, the teacher software or a classroom set, you can engage your students in dynamic visual lessons on slope, parallel lines with a transversal, perpendicular bisectors, angle bisectors and much more. Students can do multiple constructions in a very short time with deep understanding. High school, Sessions A and B (double block), room 215

Zeydel, Kim and Richards, Vana: “Presidential Award for Excellence in Mathematics and Science” Have you been teaching for five years or more? Do you have a special lesson you would like to share with others? Have your students done well on the ISAT or gone on to higher mathematics or sciences? Then come see how you could be the next Presidential Awardee. All levels, Session D, room 213



“Weaving Teaching Styles With Learning in a 21st Century Classroom”

Program Addendum

Dyorch, Matt: “Got Engagement?” Session E moved to room 320 (next door to the original)

Kinzel, Margaret Prove It! How do you know that your students understand? The Common Core Standards encourage an increased attention to reasoning and proof in the classroom. We will present a research-based definition of proof that can guide teachers’ instructional decisions. We will also share a framework for evaluating your curriculum’s potential to support students’ development of reasoning and proof. Session D Rm 219

Johnson, Erin: “Playing With Fire – Thermodynamics and Fun”