Southern Nevada's Annual Science Conference

Western High School
February 6, 2016

Presented By:
Southern Nevada Science Teachers Association
Southern Nevada Regional Professional Development Program
Clark County School District - Instructional Design and Professional Learning Division

Strand Topics Key (Room # - Strand #)	
- 1	Holographic Teaching: Using the 3D Model for Teaching Science
- 2	Alien Communication: Scientific Literacy
- 3	Keeping the Red Shirts Alive: Project Based Learning
- 4	Warp Speed Ahead: Closing the Achievement Gap
- 5	Federation of Planets: Community Partnerships

Saturday, February 6, 2016
Schedule

Grade Level Key	
K-5	6-8
9-12	K-8
6-12	K-12

7:30am – 8:00am — **Registration and Continental Breakfast (located in the Cafeteria Sponsored by DRI)**

Session 1 8:00-8:50	Session 2 9:00-9:50	Session 3 10:00-10:50		Session 4 12:00-12:50	Session 5 1:00-1:50	Session 6 2:00-2:50	Session 7 3:00-3:50
Modeling the 3 Dimensions of the NGSS for ELL: A 3-8th grade Life Science Lesson 720 - 1	To STEM or not to STEM? That is the question! 716 - 3	To STEM or not to STEM? That is the question! 716 - 3		What's the Point? Using probeware to understand melting and boiling points. 732 - 2	What's the Point? Using probeware to understand melting and boiling points. 732 - 2	Organic Gardening Basics: Leaning to successfully add a composting program to a school garden. 720 - 2	Organic Gardening Basics: Leaning to successfully add a composting program to a school garden. 720 - 2
Developing Primary Teachers' Abilities in Science and the NGSS 718 - 1	Project Based Learning Through the Lens of Science and Literacy 723 - 3	Earthquakes: From Paper to GoogleEarth 718 - 1		Earthquakes: From Paper to GoogleEarth 718 - 1	Taking Your Lesson to the 3rd Dimension 717 - 1	Taking Your Lesson to the 3rd Dimension 717 - 1	Practical Application of the NGSS in Geoscience 722 - 1
Rocks and Rock-Forming Minerals 732 - 4	Rocks and Rock-Forming Minerals 732 - 4	You Want Me To Teach What? -- Chemical Reactions 734 - 1		You Want Me To Teach What? -- Chemical Reactions 734 - 1	Strange New Worlds: Teaching Science Literacy Beyond the Classroom 731 - 2	Strange New Worlds: Teaching Science Literacy Beyond the Classroom 731 - 2	MEL - Using Model Evidence Link diagrams in your Geoscience classroom 715 - 1
Keeping Alpha Alive (Project Based Learning with an Engineering Twist) 734 - 3	Examples of 3D learning from a curriculum development program 722 - 1	Generating a Spark for Learning with STEM 720 - 3		Generating a Spark for Learning with STEM 720 - 3	Operation Clean Desert: A Learning Adventure about the Nevada National Security Site 733 - 5	Operation Clean Desert: A Learning Adventure about the Nevada National Security Site 733 - 5	Fueling the Rocket: Integrating Differentiation, Content, and Assessment to Launch Student Excellence 719 - 4
Addressing Engineering Design in the Next Generation Science Standards 716 - 3	Exploring DRI GreenPower's FREE lessons and resources - Bringing the Green Box to your classroom. 721 - 5	Book a Flight! Laws and Literacy 719 - 2		Book a Flight! Laws and Literacy 719 - 2	Isotherm to Isopleth Analysis 736 - 3	Isotherm to Isopleth Analysis 736 - 3	School-Wide Departmental Challenges: Working with the NEPF 712 - 4
HHMI's: The Origin of Species: Lizards in an Evolutionary Tree 719 - 1	Tracking Student Growth in Science Practices 717 - 1	Lake Mead: What is Our Role in its Future? 731 - 5		Using Probeware in the Classroom 723 - 2	Putting the M in STEM! 715 - 3	Analog Versus Digital 734 - 1	Analog Versus Digital 734 - 1

Lunch 10:55-11:55

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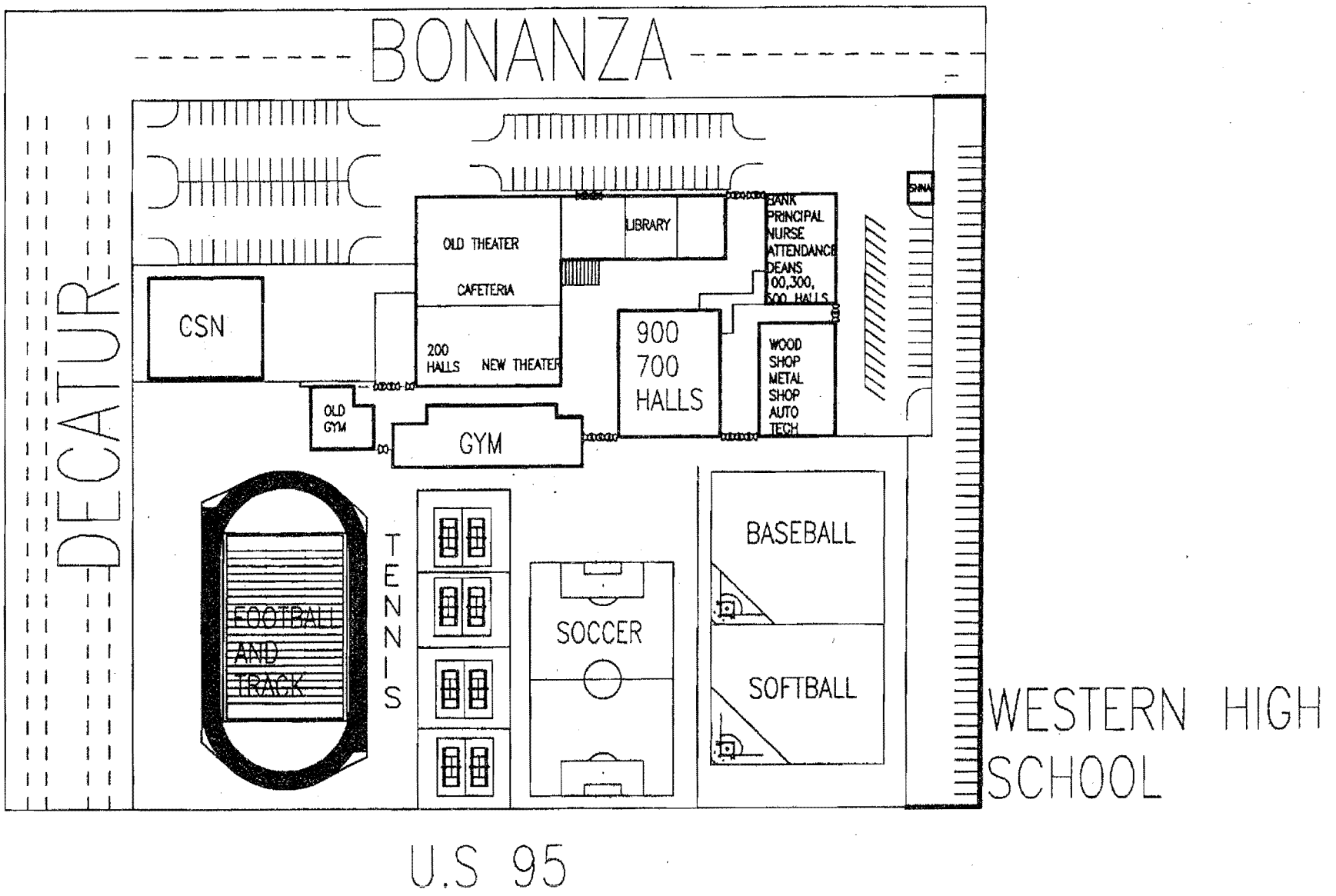
Taking FOSS Outdoors-Primary 730 - 1	Taking FOSS Outdoors-Primary 730 - 1	Science Integration Made Easy 733 - 2		STEM the Forces of Earth 735 - 1	STEM the Forces of Earth 735 - 1	Science-Centered Language Development through FOSS 730 - 2	Science-Centered Language Development through FOSS 730 - 2
The Question Formulation Technique (QFT). How to get students to ask effective questions in science. 733 - 4	Using extension menus to differentiate instruction to reach all learners. 715 - 4	Using extension menus to differentiate instruction to reach all learners. 715 - 4		Creating Virtual Field Trips Using Google Earth 716 - 3	Creating Virtual Field Trips Using Google Earth 716 - 3	More Power, Scotty!: You're Already Teaching Computer Science & You Don't Know It 723 - 4	More Power, Scotty!: You're Already Teaching Computer Science & You Don't Know It 723 - 4
Remember your Oreo's! Organize, Relevant, Examples, Or information: Great graphic organizers that are Double-Stuffed with High-Cognitive Learning! 735 - 2	Remember your Oreo's! Organize Relevant Examples Or Information Great graphic organizers that are Double-Stuffed with High-Cognitive Learning! 735 - 2	Programs at The Las Vegas Wash 721 - 5		Developing Academic Language in Science 712 - 4	Developing Academic Language in Science 712 - 4	Creating Video Tutorials 716 - 3	Creating Video Tutorials 716 - 3
Recent Adaptations in Humans 737 - 2	Getting Outside Las Vegas: Using Nature as A Platform to Improve Student Proficiency 736 - 5	Getting Outside Las Vegas: Using Nature as A Platform to Improve Student Proficiency 736 - 5		Introduction to Structures and Functions-Engineering and Science Practices 737 - 2	Introduction to Structures and Functions-Engineering and Science Practices 737 - 2	Flying in Circles 718 - 1	Flying in Circles 718 - 1
STEM Literacy: Strategies do Making Science Text Comprehensible 712 - 2	The Secret to PBL Success 712 - 3			CCSD K-5 Science Q & A Session 722 - 4		CCSD School-Community Partnerships: Current and Future Possibilities! 721 - 5	CCSD School-Community Partnerships: Current and Future Possibilities! 721 - 5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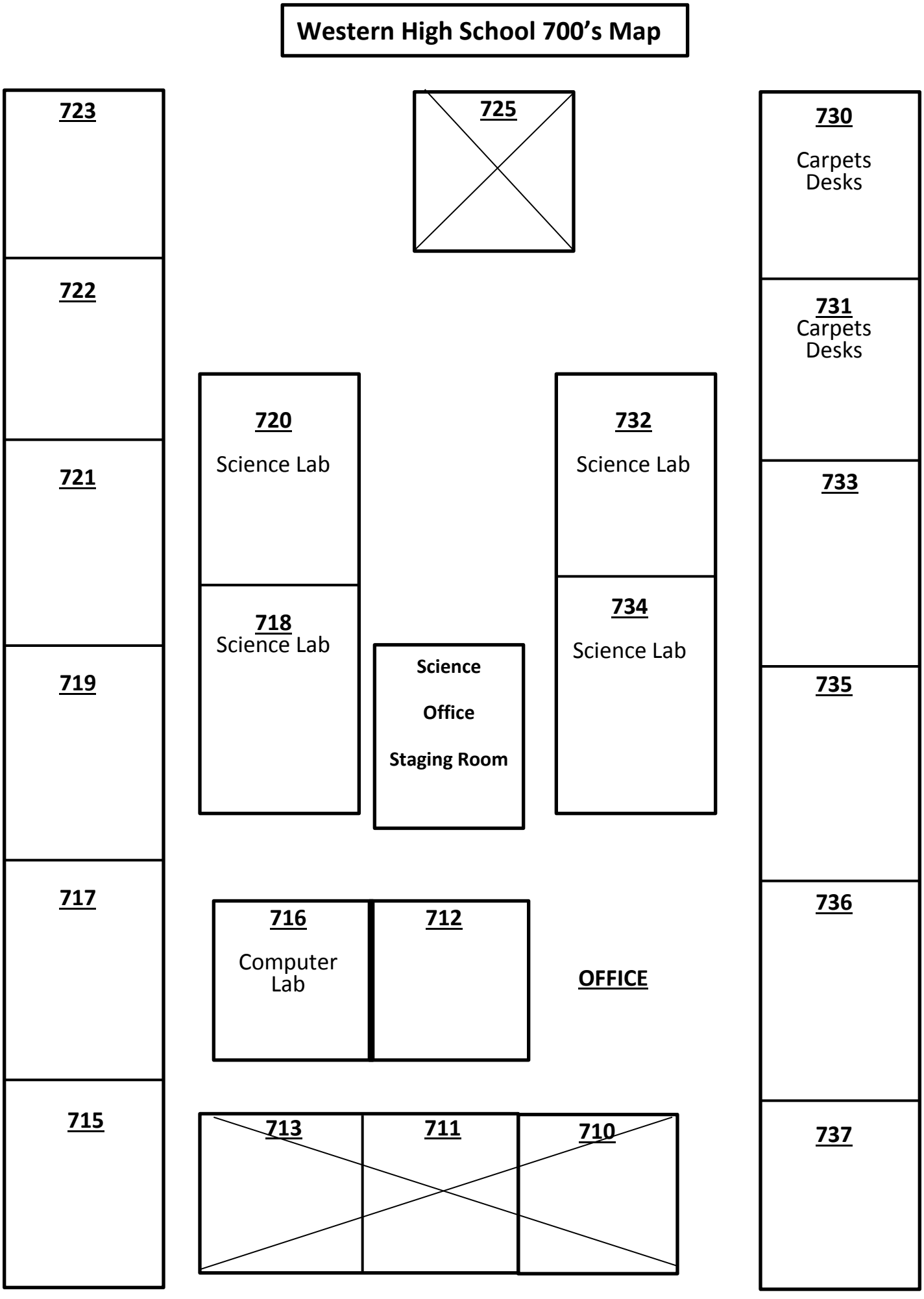
Western High School 700's Map



Session 1: Saturday 8:00 AM – 8:50 AM

Modeling the 3 Dimensions of the NGSS for ELL: A 3-8th grade Life Science Lesson.

David Crowther, UNR

K-8 Rm. 720

This session will model the 3-Dimensional Learning of the NGSS along with modification for ELL (ALL Learners) in a Life Science lesson. With the recent release of the Next Generation Science Standards and the emphasis that is now associated with language intensive 3-dimensional learning, a concern exists on how to enable all students, but especially (ELL), to meet the more rigorous and sophisticated standards, by achieving 3-dimensional thinking and learning within this framework. This session will share with participants the importance of experiential learning that is used prior to and simultaneously with the development of the language modalities associated with learning science and integrated STEM disciplines. Experiential learning refers to developing rich context in which students engage in phenomena while using authentic and meaningful dialogue to develop meaning.
The session will utilize a Learning Cycle format as the participants are engaged in food chains / webs through engaging literature to establish background content knowledge (listening and speaking), participants will then create in a kinesthetic food web where all students will be linked with yarn by trophic level (PSE) (listening, speaking, simple reading, writing). Participants will then have an opportunity to learn the concept of food webs and energy flow (DCI) with appropriate academic vocabulary strategies (listening, reading, and writing), the elaboration activity will focus on human interactions to the given ecosystem (CCC) (Speaking and writing), and the final phase of the activity will focus on 3 Dimensional summative projects to assess knowledge learned (with adaptations for different ELD levels).

Keeping Alpha Alive (Project Based Learning with an Engineering Twist)

3-8 Rm. 734

Sandra Yancey, Canarelli Middle School
Joyce Zakem, Canarelli Middle School

This hands-on learning experience will allow students to explore living vs. nonliving characteristics along with basic survival needs. Students will create a creature that may be transported back to Earth from an imaginary planet. They will need to evaluate the creature and needs along with building a transport device to bring the creature back to Earth. Concepts related to life, earth, and physical sciences and engineering will be explored. NVACSS and NEPF suggestions for implementation will be discussed.

Developing Primary Teachers' Abilities in Science and the NGSS

Camille Stegman, Nevada State Science Teachers Association

K-2 Rm. 718

The Next Generation Science Standards (NGSS) will require primary teachers to teach science: a subject that many primary teacher are reluctant to teach. Often this is due to unfamiliarity with the content, practices, and concepts involved in science. There is a need to develop not only content knowledge for primary teachers, but also the skills to teach science well. Four rural teachers collaborated together to design several integrated lessons that would address the K-2 NGSS standards, as well as the CCSS. The teachers in this project, not only learned how to teach science at the primary level, but also designed formative assessments that assisted them in making their next curriculum decisions. This hands-on workshop will not only introduces several activities that a primary teacher can utilize in the classroom, it explores how they managed to find the time and confidence to teach those lessons. This collaborative project shares the primary teachers' preparation, collaboration, and reflections on several classroom activities over a period of several weeks. This information will assist other primary teachers in developing similar collaborative environments within their schools. The activities and recommendations for how to effectively collaborate at the primary level to meet the challenges of the NGSS three-dimensional learning will be shared.

Rocks and Rock-Forming Minerals

Adam Crist, Centennial High School

9-12 Rm. 732

To provide students with an understanding of the difference between rocks and minerals, the classification of rocks, and the processes by which rocks formed. Micro-Slide-Viewers will be utilized to allow for a visual experience which will increase students' powers of observation and stimulate their powers of scientific reasoning and deduction..

Taking FOSS Outdoors-Primary

Ellen Dunn, IDPL

K-5 Rm. 730

David Sobel, author of Ecophobia states, "If we want children to flourish, to become truly empowered, then let us allow them to love the Earth before we ask them to save it." Through this session, learn how the Full Option Science System (FOSS) is using the outdoors as a place to foster an appreciation for the outdoors by using the schoolyard to explore the three-dimensional content of the Nevada Academic Content Science Standards for Science (NVACSS) based on the Next Generation Science Standards. Throughout this session, we will examine strategies to successfully manage outdoor science lessons, discuss the benefits of extending science instruction to the outdoor setting, and experience outdoor FOSS investigations. The session will conclude with connecting the outdoor investigations with the NVACSS and the Nevada Educator Performance Framework.

Session 1: Saturday 8:00 AM – 8:50 AM

Addressing Engineering Design in the Next Generation Science Standards

K-5 Rm. 716

Hasan Deniz, UNLV College of Education
Mohamed Trabia, UNLV College of Engineering

This session will describe a week long professional development program in which elementary teachers constructed soda can crushers by following the engineering design process. The session will also describe possible ways through which science, math, reading, and writing can be integrated to the engineering design process at the elementary level.

This engineering design challenge involved participants in constructing soda can crushers to save space when collecting soda cans for recycling purposes. Participants went through the entire engineering design process similar to real engineers. They conducted a small needs analysis by asking people around them whether they would purchase a soda can crusher, what qualities they are looking for in a soda can crusher, and how much money they would spend on a soda can crusher. They also searched for the commercially available soda can crushers in the market. Participants in groups of 3 or 4 designed soda can crushers on paper first, and then they constructed, tested, and improved their designs by considering criteria such as ease of use, reliability, portability, aesthetics, and storage space needed. After groups finalize their designs, each group wrote a script and shoot a 2 or 3 minutes long video commercial for their product. Students as a whole class watched the video commercials one by one and made a decision whether they would buy the product in the video commercial by considering the criteria mentioned above.

HHMI's: The Origin of Species: Lizards in an Evolutionary Tree

9-12 Rm. 719

Charlene Weisenborn, Boulder City High School
Lonnie Nicosia, Intelligent Hoodlums

This session will introduce teacher who are not familiar with the HHMI/BioInteractive programs. We introduce the program "The Origin of Species: Lizards in an Evolutionary Tree", the Lizard Evolution Virtual Lab. Free materials will be provided to participants.

The Question Formulation Technique (QFT). How to get students to ask effective questions in science.

K-5 Rm. 733

Teri Mann, Staton Elementary School
SNRPDP Part-Time Science Trainer

Come engage in the Question Formulation Technique (QFT) process to get students to ask effective questions for deeper learning, analysis, and problem solving in science. Participants will leave this session with science questioning strategies.

Remember your Oreos!
Organize
Relevant
Examples
Or Information
Great graphic organizers that are Double-Stuffed with High-Cognitive Learning!

6-8 Rm. 735

Melissa Eickholt, Fremont Professional Development Middle School
Alicia Herrera, Fremont Professional Development Middle School

This session is jammed packed with useful, highly rigorous graphic organizers that extend your students' learning. Participants will participate in creating some graphic organizers, and take home multiple ideas for class on Monday! We are out-of-the-box thinkers and learners who will amaze you with some of our creations, oh, and free Oreo's!.

Recent Adaptations in Humans

6-8 Rm. 737

Judy Kraus, Hyde Park Middle School

The presentation, Recent Adaptations in Humans, will demonstrate the resources available at biointeractive.org as we explore the development of lactose intolerance in the human population. Participants will use multi-media resources to integrate genetics and evolution in the middle school classroom.

STEM Literacy: Strategies for Making Science Text Comprehensible

K-12 Rm. 712

Sharry Whitney, Accelerate Learning
Michelle Cozza, Accelerate Learning

Scientific Literacy is grounded in understanding specific science concepts that are at the heart of a strong STEM program but are often difficult to attain through complex science text. Join us as we learn the power of using Close Reading strategies to engage students in reading, writing, and discussing the science text in collaborative groups, which will lead to student mastery and high achievement. This session will convince you that your students CAN read science and build the capacity for scientific literacy success in your STEM classroom.

Session 2: Saturday 9:00 AM - 9:50 AM

To STEM or not to STEM? That is the question!

Anne Phillips, Woolley Elementary School

K-5 Rm. 716

Integrating FOSS into your ELA and Mathematics blocks allows you to cover more content and helps to build schema and vocabulary. This interactive session will explore how a primary classroom teacher can utilize the STEM interdisciplinary and applied approach with FOSS units. Examples will be shared and participants will explore the Next Generation FOSS online resources available at their grade level.

Project Based Learning through the Lens of Science and Literacy

Stacy Cohen, SNRPDP Elementary Science Trainer
Chelli Smith, SNRPDP Director

K-5 Rm. 723

Are you interested in project based learning but unsure where to start? Then this is the session for you! Participants will leave this session with project based learning classroom ideas that integrate science and literacy.

Rocks and Rock-Forming Minerals

Adam Crist, Centennial High School

9-12 Rm. 732

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Examples of 3D Learning from a Curriculum Development Program

K-12 Rm. 722

Kris Carroll, SNRPDP Science Trainer
David Vallett, UNLV College of Education

Come join us as we describe 3-dimensional learning in context of lesson plan examples from a curriculum development project. At this session we will discuss the modified Science Writing Heuristic, share many examples from fellow educators, and share access to over 80 developed lesson examples from a wide range of grade levels.

Exploring DRI GreenPower's FREE lessons and resources - Bringing the Green Box to your classroom.

K-12 Rm. 721

Craig Rosen, DRI Green Power
Amelia Gulling, DRI Green Power

In this workshop, educators will engage in hands-on activities as we open up and explore one of our Green Boxes. Be excited as we showcase these NGSS aligned lessons developed by teachers for teachers. They are "out of this world!" and best of all they are FREE!

Taking FOSS Outdoors-Primary

Ellen Dunn, IDPL

K-5 Rm. 730

David Sobel, author of Ecophobia states, "If we want children to flourish, to become truly empowered, then let us allow them to love the Earth before we ask them to save it." Through this session, learn how the Full Option Science System (FOSS) is using the outdoors as a place to foster an appreciation for the outdoors by using the schoolyard to explore the three-dimensional content of the Nevada Academic Content Science Standards for Science (NVACSS) based on the Next Generation Science Standards. Throughout this session, we will examine strategies to successfully manage outdoor science lessons, discuss the benefits of extending science instruction to the outdoor setting, and experience outdoor FOSS investigations. The session will conclude with connecting the outdoor investigations with the NVACSS and the Nevada Educator Performance Framework.

Using extension Menus to Differentiate Instruction to Reach all Learners

Cara Heck, Del Web Middle School
Maureen Polster, Del Web Middle School

6-8 Rm. 715

All students do not learn the same way. In this session teachers will be given ideas on how to test students' different learning styles. Teachers will then be shown how extension menus are traditionally used and how they can be adapted to provide assignment options to all students to demonstrate their understanding of science concepts. Examples will be shown for all middle school subjects.

Session 2: Saturday 9:00 AM - 9:50 AM

Remember your Oreos!

Organize
Relevant
Examples
Or Information

6-8 Rm. 735

Great graphic organizers that are Double-Stuffed with High-Cognitive Learning!

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This session is jammed packed with useful, highly rigorous graphic organizers that extend your students' learning. Participants will participate in creating some graphic organizers, and take home multiple ideas for class on Monday! We are out-of-the-box thinkers and learners who will amaze you with some of our creations, oh, and free Oreo's!

Tracking Student Growth in Science Practices

Charity Staudenraus, Independent Consultant
Dr. Janice Gobert, Rutgers University

6-8 Rm. 717

For the first time, Inq-ITS has made it possible to easily track student growth in science practices. Dr. Janice Gobert, Rutgers University, and her team, have a patent pending on new algorithms that automatically assess students. As students work, Inq-ITS generates real-time formative reports on classroom-wide performance on each inquiry skill. Furthermore, educators have the ability to track student growth through a single virtual lab, across a school year, or throughout their middle school career. Research and development of Inq-ITS was generously funded through the Department of Education and National Science Foundation. Seeking educators to pilot Inq-ITS. During this session, educators will be asked to explore inquiry activities in a virtual environment. Access to a device with internet access is highly encouraged. Please join us as we work through the process of identifying independent and dependent variables applied to virtual labs in Life, Physical, and Earth Science with the goal of helping students to overcome misconceptions. Focus will be on topics that cannot be assessed in an inquiry fashion in a hands-on lab. Examples: Atomic Composition Models, Embryological Development, and how Human Activity has altered our planet.

Getting Outside Las Vegas: Using Nature as A Platform to Improve Student Proficiency

Aaron Leifheit, Outside Las Vegas Foundation

K-12 Rm. 736

More Than A Field Trip: Using Nature as A Platform to Improve Student Proficiency.

Southern Nevada is full of diverse parks and public lands, all of which offer numerous growth opportunities for visiting students. This program will introduce teachers to the outdoor opportunities available in Southern Nevada, highlight the benefits to personal development and student proficiency available in these areas, and will provide information on how to visit these areas. Participants will also receive information on how to partner with the Outside Las Vegas Foundation, which offers grants for field trips, expert guest speakers, Next Generation Science Standards based programming, and field trip logistical support.

The Secret to PBL Success

Sharry Whitney, Accelerate Learning
Michelle Cozza, Accelerate Learning

K-12 Rm. 712

Project-based Learning can be challenging the first time you implement it. Come experience a hands-on, engaging PBL that reveals the strategies for seamless facilitation. Allow your students the autonomy to solve problems that interest them and see high levels of engagement that leads to high levels of learning.

Session 3: Saturday 10:00 AM - 10:50 AM

To STEM or not to STEM? That is the question!

Anne Phillips, Woolley Elementary School

K-5 Rm. 716

Integrating FOSS into your ELA and Mathematics blocks allows you to cover more content and helps to build schema and vocabulary. This interactive session will explore how a primary classroom teacher can utilize the STEM interdisciplinary and applied approach with FOSS units. Examples will be shared and participants will explore the Next Generation FOSS online resources available at their grade level.

Earthquakes: From Paper to Google Earth

Laura Doughty, WCTA
Mary Shane, A-TECH

9-12 Rm. 718

Let's take a cookbook lab and infuse it with multiple layers of technology. Using real-world earthquake data, let's look at ways to use the technology you have (or don't have!) to research plate tectonics. It even meets the NGSS!

You Want Me To Teach What? -- Chemical Reactions

6-8 Rm. 734

Kathleen Reiss, Fertitta Middle School
Cameron Roehm, Cram Middle School

Standards are changing. Next Year, 7th grade teachers will be teaching integrated science, so chemical reactions will move from grade 8 to grade 7. In addition, the new standards will be expressed in terms of the three dimensions of the NGSS framework. This presentation will equip grade 7 teachers with easy-to-come-by materials to teach chemical reactions standards with the new NVACSS.

Generating a Spark for Learning with STEM

Maria Cieslak, IDPL
Cindy Flores, IDPL

K-5 Rm. 720

In this hands-on, "minds on" session, you will participate in engineering challenges using simple, inexpensive materials. Design a parking garage, a water tower, and a waterway raceway. Compete in the 2 x 2 x 2 x 2 challenge with other engineering teams. Plus, take away more inexpensive STEM challenges.

Book a Flight! Laws and Literacy

Sheila Portillo, Cunningham Elementary School

K-5 Rm. 719

Join in a hands-on workshop where you will learn how motion and forces affect flight. Learn how design affects flight while making paper airplanes. Browse books about flight to use in your classroom lessons. Exposed to, discovering, and understanding the nature around us, we can help battle some of the problems facing our youth while helping them succeed to their fullest potential.

Lake Mead: What is Our Role in its Future?

Thomas Valencia, Lake Mead NRA
Katrina Hashimoto, IDPL

K-5 Rm. 731

Interested in tying real-world community issues into your science lessons? Join us to see how to connect information that students learn from Lake Mead field trips to a lesson aligned to the Next Generation Science Standards. This modeled lesson addresses part of the 3rd grade performance expectation 3-LS4-4 while integrating 3 dimensional learning. We will also share Lake Mead National Recreational Area field trips that are aligned to the Next Generation Science Standards.

.Science Integration Made Easy

K-5 Rm. 733

Ivy Nelson, Staton Elementary School
SNRPDP Part -Time Science Trainer

Are you interested in science integration during your ELA and math lessons? Come participate in a hands-on integrated 5E lesson. This session will focus on hands-on interactive science lessons that integrate science, literacy and math. Participants will leave the session with ideas on how to integrate science into reading and math blocks.

Session 3: Saturday 10:00 AM - 10:50 AM

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Aaron Leifheit, Outside Las Vegas Foundation

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Programs at the Las Vegas Wash

Signa Gndlach, Environmental Bioligist

6-12 Rm. 721

The purpose of this presentation is to describe education and outreach opportunities offered to students and families at the Las Vegas Wash with the oversight of the Las Vegas Valley Watershed Advisory Committee. We offer both school and community-based programs. For example, a program such as World Wetlands Day is offered to high schools students once a year and is geared towards students and teachers who are focused on STEM curricula. Green-ups, on the other hand, take place on Saturdays, twice a year, and are events opened to the public. At the Green-ups, community members can learn about their local environment while helping us plant native vegetation! This presentation will also discuss other opportunities that the Las Vegas Wash Team offers, such as sending one of our scientists to your classroom for a talk!

Using Extension Menus to Differentiate Instruction to Reach all Learners

Cara Heck, Del Web Middle School
Maureen Polster, Del Web Middle School

6-8 Rm. 715

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Session 4: Saturday 12:00 PM - 12:50 PM

What's the Point? Using Probeware to Understand Melting and Boiling Points

Steven Gaskill, Knudson Middle School

6-12 Rm. 732

In this hands-on presentation, we will use Vernier temperature probes to collect data to help students understand melting and boiling points. Participants will set up a data collection station that will enable students to use iPads, Chromebooks, and other devices to receive real-time temperature data collected by a probe. This lab was designed for the new sixth grade thermal energy unit in a one-to-one iPad school, but could be used in any classroom studying states of matter.

Earthquakes: From Paper to Google Earth

Laura Doughty, WCTA
Mary Shane, A-TECH

9-12 Rm. 718

Let's take a cookbook lab and infuse it with multiple layers of technology. Using real-world earthquake data, let's look at ways to use the technology you have (or don't have!) to research plate tectonics. It even meets the NGSS!

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Maria Cieslak, IDPL
Cindy Flores, IDPL

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Using Probeware in the Classroom

Carl Jarvinen, SNRPDP Science Trainer
Bret Sibley, SNRPDP Science Trainer

6-12 Rm. 723

This session will provide opportunities for teachers to become familiar with selected software and probeware from Vernier. Teachers will gain hands-on experiences in the use of this technology for data collection and analysis in their classrooms.

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STEM the Forces of the Earth

Francine Gollmer, Ward Elementary School
Jackie Jaeger, Ward Elementary School

K-5 Rm. 735

Come join us in this session and explore STEM lessons and ideas for your classroom. Participants will engage in STEM challenges and will leave the session with ideas that are ready for classroom use.

CCSD K-5 Science Q & A Session

Eileen Gilligan, IDPL K-5 Science Coordinator

K-5 Rm. 722

Come and ask the "science lady" questions you may have regarding K-5 science implementation of the revised NVACCS, the FOSS Replenishment Center, Curriculum Engine resources, science integration, etc....

Session 4: Saturday 12:00 PM - 12:50 PM

Creating Virtual Field Trips Using Google Earth

Lori Henrickson, Del Webb Middle School
SNRPDP Part-Time Science Trainer

K-12 Rm. 716

In this interactive session, participants will use ready-made templates to create an interactive virtual field trip using Google Drive and the Google Earth software.

The ready-made templates will allow participants to input pictures and text onto Google Earth placemarks by copying the information into basic HTML code and adding it to the placemark. Multiple placemarks can be saved together to create the virtual field trip.

Virtual field trips can be used by teachers to highlight areas of interest (e.g. different types of mountains across the globe or important locations within their own town), by students to create a tour of various locations (e.g. renewable energy power plants across Nevada or geologic features across the Western US), or many other interactive ways. Although the virtual field trips must be made on a Mac or PC, they can be downloaded to iDevices for student use.

No prior knowledge of Google Drive, Google Earth, or HTML code is needed to attend this session or create a virtual field trip.

Introduction to Structures and Functions- Engineering and Science Practices

Jennifer Schmidt, Somerset Academy

3-5 Rm. 737

Use Questions, Claims, Evidence, and Conclusion to introduce your students to the terms Structure and Function and how these terms are related. This lesson focuses on analyzing the structure of an object to determine the function.

Developing Academic Language in Science

Valerie Seals, SNRPDP Elementary Literacy Trainer
Nathalie Brugman, SNRPDP Elementary Literacy Trainer

K-5 Rm. 712

Participants will gain an understanding of who needs academic language support and will begin to develop effective strategies for teaching academic language in science.

Session 5: Saturday 1:00 PM - 1:50 PM

What's the Point? Using Probeware to Understand Melting and Boiling Points

Steven Gaskill, Knudson Middle School

6-12 Rm. 732

In this hands-on presentation, we will use Vernier temperature probes to collect data to help students understand melting and boiling points. Participants will set up a data collection station that will enable students to use iPads, Chromebooks, and other devices to receive real-time temperature data collected by a probe. This lab was designed for the new sixth grade thermal energy unit in a one-to-one iPad school, but could be used in any classroom studying states of matter.

Taking Your Lesson to the 3rd Dimension

Heather Witt, Knudson Middle School
Jennifer Panczyszyn, Knudson Middle School

6-12 Rm. 717

Review the Next Generation Science vision for Three Dimensional Teaching and Learning and follow 2 teachers who've taken many basic lessons to the "third dimension." See how a simple "Energy Pyramid" lesson was turned into a 3-dimensional Science Writing Heuristic and discuss strategies for engaging students in Science and Engineering Practices and Crosscutting Concepts. Begin to workshop your own lesson to incorporate 3-dimensional teaching/learning. Please bring a lesson you would like to infuse with 3-Dimensional Teaching/Learning.

Strange New Worlds: Teaching Science Literacy Beyond the Classroom

K-5 Rm. 731

Laurie Raines, Springs Preserve Education Assistant

Sometimes the best way to familiarize your students with applying science outside the classroom is to take them outside the classroom. The Springs Preserve will distill our top 5 tips for using strange settings from field trips to front lawns for engaging students in relating science concepts to their everyday lives. Focusing on elementary grades, we'll look at tools for making connections from the classroom to the museum (or anywhere else you choose to go!). We may even draw inspiration from our upcoming exhibit "Science Fiction, Science Future."

Operation Clean Desert: A Learning Adventure about the Nevada National Security Site

Dona Merritt, Navarro, contractor to the US Department of Energy

6-8 Rm. 733

Operation Clean Desert, a learning adventure geared toward middle school students, explains the relationship between historic nuclear activities and current environmental cleanup efforts at the Nevada National Security Site, located approximately 65 miles northwest of Las Vegas, Nevada. Free materials include student activity books and the companion Teacher's Guide chock full of activities, videos, and a student assessment. Operation Clean Desert takes a technical topic and translates it into an interesting and informative learning tool that applies to specific curriculum standards.

Isotherm to Isopleth Analysis

Tim Loose, A-TECH

6-12 Rm. 736

There will be a hands-on learning center on drawing isotherms, replicating the student's experience progressing from simple maps to more complicated maps. There will also be a discussion of the meteorology behind isotherm analysis and isopleths in general.

Putting the M in STEM

K-5 Rm. 715

Kathy Dees, SNRPDP Elementary Math Trainer
Sue Dolphin, SNRPDP Elementary Math Trainer

Are you interested in integrating math into your science lessons? This session will highlight activities that integrate science and math. Participants will leave with new ideas to try out in their classrooms.

STEM the Forces of the Earth

Francine Gollmer, Ward Elementary School
Jackie Jaeger, Ward Elementary School

K-5 Rm. 735

Come join us in this session and explore STEM lessons and ideas for your classroom. Participants will engage in STEM challenges and will leave the session with ideas that are ready for classroom use.

Session 5: Saturday 1:00 PM - 1:50 PM

Creating Virtual Field Trips Using Google Earth

Lori Henrickson, Del Webb Middle School
SNRPDP Part-Time Science Trainer

K-12 Rm. 716

In this interactive session, participants will use ready-made templates to create an interactive virtual field trip using Google Drive and the Google Earth software.

The ready-made templates will allow participants to input pictures and text onto Google Earth placemarks by copying the information into basic HTML code and adding it to the placemark. Multiple placemarks can be saved together to create the virtual field trip.

Virtual field trips can be used by teachers to highlight areas of interest (e.g. different types of mountains across the globe or important locations within their own town), by students to create a tour of various locations (e.g. renewable energy power plants across Nevada or geologic features across the Western US), or many other interactive ways. Although the virtual field trips must be made on a Mac or PC, they can be downloaded to iDevices for student use.

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Use Questions, Claims, Evidence, and Conclusion to introduce your students to the terms Structure and Function and how these terms are related. This lesson focuses on analyzing the structure of an object to determine the function.

Session 6: Saturday 2:00 PM - 2:50 PM

Organic Gardening Basics: Leaning to Successfully Add A Composting Program to A School Garden

K-12 Rm. 720

Karyn Johnson, University of Nevada Cooperative Extension

There are many benefits to composting in a school garden. Learn how to connect organic activity to science! Composting is a great method of using discarded food, paper and other materials to create organic components that will enrich garden soils. Students and teachers can learn about microbial activity, how it helps materials to change, and how to keep compost from becoming a stinky nightmare! Learn the difference between an organic compost and a worm farm, and get all your composting questions answered.

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Analog Versus Digital

Kathleen Reiss, Fertitta Middle School
Cameron Roehm, Cram Middle School

6-8 Rm. 734

Which has a better means of data transmission: Analog or Digital signals? Explore this NGSS standard using the three dimensions of the framework for NGSS. Go home with an entire unit planned that you may share with your students including emphasis on the cross-cutting concept of structure and function, engineering practices, in the style of a 5E Unit with a Model-Evidence-Link Diagram to spur argument composition.

Science-Centered Language Development through FOSS

Ellen Dunn, IDPL Science

K-5 Rm. 730

Scientific teams gather together to discuss their findings, record and analyze data, and defend their explanations with evidence from experimentation. Is this a group of university scientists at work? No, these are teams of student scientists in your classroom! In this session, we will explore strategies to integrate language through the context of a Full Option Science System (FOSS) investigation. We will highlight practices that best support learning science content while developing language skills. Science investigations provide the perfect opportunity to allow students to use their language skills in authentic ways to communicate their scientific understandings.

Session 6: Saturday 2:00 PM - 2:50 PM

More Power, Scotty! You're Already Teaching Computer Science & You Don't Know It

Michael Lang, Intelligent Hoodlums
Stephanie Weber, Intelligent Hoodlums

K-12 Rm. 723

Darn it, Jim! I'm a teacher, not a computer scientist! Computer science is everywhere (you just may not realize it). It's the literacy of the modern age and it integrates into any subject or topic. Would you believe you're already doing some basic CS principles? Highly illogical, you say? Not as much as you might think. Join The Intelligent Hoodlums, Michael Lang and Stephanie Weber, for an Inquiry Session to learn about some computer science basics and how what you already do illustrates those principles. This isn't your usual sit and get. This is a conversation where you bring your expertise and we bring ours. Even the most doomed Red Shirt has something to share! Live long and prosper and see you at the session.

Creating Video Tutorials

Crystal Phelps, Scherkenbach Elementary School
Part-Time SNRPDP Elementary Technology Trainer

K-12 Rm. 716

Have you ever wondered how those tutorials on YouTube are created? This presentation will provide information on creating video tutorials to engage your students in learning.

Flying in Circles

Brian Crosby, NWRPDP STEM Director
Lou Loftin, NWRPDP Science Facilitator

3-12 Rm. 315

Participants will construct inexpensive model balsa wood self-propelled planes. After construction flight tests aligned with the 3 dimensions of the NVACSS (NGSS) will be conducted to improve flight time and speed.

CCSD School-Community Partnerships: Current and Future Possibilities!

Cheryl Wagner, CCSD School-Community Partnership Program Coordinator

K-12 Rm. 721

The CCSD School-Community Partnership Program STEM coordinator will discuss current and possible future partnership programs and opportunities, where to get additional information, and will facilitate the sharing of ideas and collaboration between the participants. In addition, general recommendations for developing and maintaining successful partnerships will be discussed. Come to make sure you are connected to opportunities as they arise!

Session 7: Saturday 3:00 PM - 3:50 PM

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K-12 Rm. 720

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Practical Application of the NGSS in Geoscience

Jonathon Guerin, Green Valley High School

9-12 Rm. 722

This session will provide an overview of the NGSS in Geoscience, introduce some of the integral knowledge and performance targets for the standards, and provide an example of a 3-Dimensional lesson from the Space Science standards.

MEL - Using Model Evidence Link diagrams in your Geoscience classroom

Jenelle Hopkins, Shadow Ridge High School
Carmen Ross, Durango High School

6-12 Rm. 715

Dr. Doug Lombardi and Dr. Janelle Bailey of Temple University have been using CCSD secondary classrooms to fine-tune four geoscience based MELs - Wetlands, Climate Change, Moon Formation and Fracking. Join us as we show you how to use MEL and where you can download all materials for free.

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Cameron Roehm, Cram Middle School

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Fueling the Rocket: Integrating Differentiation, Content, and Assessment to Launch Student Excellence

6-12 Rm. 719

Christopher Wells, McGraw-Hill Education, 6-12 STEM Curriculum Specialist
Steven Tutnick, McGraw-Hill Education, K-12 Representative

6-12 science teachers have to engage every student, every day. This presentation addresses multiple pathways for supporting every level of student with science education materials and authentic assessment to build proficiency with science concepts and support metacognitive development of how science works in the real world. Discussion will include instructional differentiation, student science practices, addressing multiple reading levels (and ELL students), multiple assessment levels, and supporting student understanding of real-world science practices and problem-solving.

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School-Wide Departmental Challenges in conjunction with long holiday breaks in order to highlight important concepts from NEPF with a hands-on challenge.

Jonathon O'Brien, SWCTA Chemistry

9-12 Rm. 712

Our school recognized a few things when we opened:
1. The day before a big break is often lost in terms of quality instruction due to human nature.
2. Why not take all of that, "human nature" and direct that energy into a hands-on, school-wide challenge based on our school's identified weaknesses in our departments?!
3. "BAM!". We invented and implement our annual, "SWCTA Science Department Holiday Challenge".

Application:
Each year, we look at the data we accumulated from the following year, we interview the subject teachers and ask, "what important concept/s from the previous year are the kids forgetting?", and we cross analyze in order to identify 3 specific hands-on, DOK 2-4, science activities. Next we stack the 3 activities on top of each other, we group the students to have one subject "expert" in each group (bio, chem, physics and geo) and we start the challenge!

The single team that completes all 3 activities correctly in the fastest time wins gift cards and they are interviewed and star in the upcoming morning announcements. This has swept through our school and, what started as just a science challenge, has evolved so that each department hosts its own challenge at some critical juncture throughout the school year. We alter the challenge every year to ensure an original challenge for each student in grades 9-12!

Southern Nevada's Annual Science Conference

Conference Chairs
Stacy Cohen
Francine Gollmer

Registration
Jenelle Hopkins
Carmen Ross

Vendors
Sarah Andres

Facilities
Tony Whitney

Website and Technology
Camille Stegman

Program Coordination
Stacy Cohen
Kris Carroll
Lori Henrickson

Volunteer Coordinator
Gina Vallari

District Coordination
Eileen Gilligan
Katrina Hashimoto
Ellen Dunn
Beverly Lousignont
Cheryl Wagner

Regional Coordination
Stacy Cohen
Kris Carroll

Publicity
Eileen Gilligan

Door Prizes
Ivy Nelson
Teri Mann

Program Printing
Kris Carroll

Hospitality
Gina Valleri
Mary Shane
David Peltz

The Southern Nevada Science Teachers Association would like to give many thanks to the following for their generous support:

Western High School
Desert Research Institute
CHOLLA
Nevada State Science Teachers Association (NSSTA)
Our Vendors
CCSD
RPDP

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Nevada State Science Teachers Association
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Treasurer: Jen Willden
Membership: Kelly Cannon
Region I Representative: Carmen Ross
Region II Representative: Megan Beckam
Region III Representative: Tenna Walker
Region IV Representative: William Cox
Region V Representative: Jen Willden

Looking to get more involved in our organization to help science education in Nevada?

The Southern Nevada Science Teachers Association (SNSTA) is the region one chapter of the Nevada State Science Teachers Association (NSSTA).

Our organization's mission is to unify the state in high quality science education and provide support and networking opportunities for our members. Your joint membership for NSSTA and SNSTA is valid from August of 2016 to August of 2017.

Our organization is seeking active members to bring creative insights to our leadership group.

Are you ready to become involved?

Send us an email if you are interested!

Region 1 members - Southernnevadascience@gmail.com

All other Regions - nvscience@aol.com

Visit the state association website at www.nvscience.org

Join us on Social Media:

LIKE US ON facebook www.facebook.com/southernnevadascience

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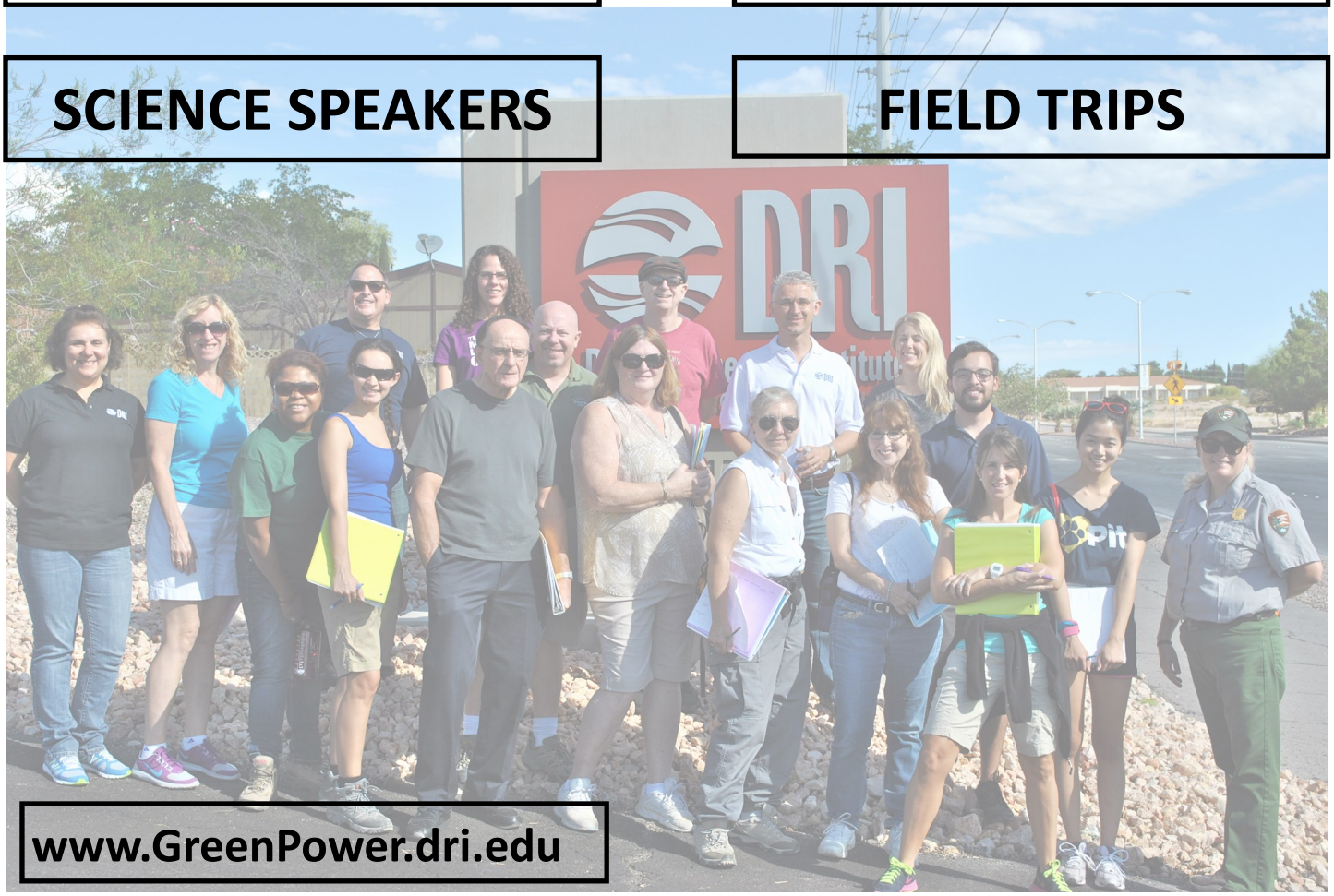

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