

***Experiments in Green Chemistry: Building NGSS Curriculum with Safe, Environmentally Friendly Experiments.***

**Stefanie Loomis; Lucas J Tucker**

**Catskill Central School District; Siena College**

**Highland Room A 12 – 12:50PM**

Green chemistry experiments can be used to increase student safety in the classroom while meeting the performance expectations associated with the NGSS. Experiments with more benign chemicals can allow for more freedom for students to experiment and instructors to write interesting storylines.

***The Versatility of Standards Based Grading***

**Tyna Meeks**

**Indian River Central School District**

**Highland Room B 12 – 12:50PM**

Standards Based Grading has developed quite a following, but is it really worth the effort? Using choice menus, a variety of assessments, patience, and a sense of humor, I would answer with a resounding yes. Let me introduce an optional pathway to bringing Standards Based Grading to your classroom.

***Ready, Set, Experiment!: Annotating concept maps with "engagement" factors to connect theory and practice***

**Maru Colbert**

**E5/Science Nation Project School**

**Highland Room C 12 – 12:50PM**

After mapping course content onto "loci of [student] interest", learn how to engage students with phenomena, increase their participation through guided inquiry and ensure learning and practice outcomes with focused pre-lab assessment. Inquiry modalities and assessment options related to content presentation and course activities will be explained. An example of a successful, nature-based, take-home experiment that incorporates chemistry, biology, ecology, mathematics and physics will be outlined. A specific "beginning-middle-end" [of the year] experiment prototype, consistent with topical sequencing, can be adapted for use by teachers. The instructional model presented in the workshop is a guide for enhancement of the appeal, participation and success in chemistry courses.

### ***Assessment Design for the NGSS Standards***

**Mark Pellegrino**  
**Pittsford Sutherland High School**

**Highland Room A 1:00 – 1:50 PM**

Participants will see how state assessment questions are being developed and sample assessments. The fundamentals of putting assessments together will be looked at, as well as the review process for draft questions. How these assessments will impact your teaching will then be discussed.

### ***Critical Thinking in the Classroom***

**Eileen Malloy Desormeaux & Marie Lo Re**  
**Pittsford Sutherland High School**

**Highland Room B 1:00 – 1:50 PM**

Critical Thinking is a learned skill. Several classroom activities that promote and allow students the opportunity to practice critical thinking are modeling, inquiry labs, problem-based learning and collaborative group work. This session will define and give examples of how critical thinking can be encouraged in the classroom.

### ***Science Study Tools***

**Dawn Ferris**  
**Greece Odyssey Academy**

**Highland Room D 1:00 – 1:50 PM**

Hands on! Engage in the making of several clever, effective tools for studying and reviewing material in your science classroom. Participants will leave with examples of their own creations, and the skills for making them with students.

### ***Wait, What? Creating a 3D Storyline using the Properties of Gases***

**Sarah English**  
**Sweet Home High School**

**Highland Room A 2:00 - 2:50 PM**

Join Sarah English as she provides an overview of the process of how she transformed her gases unit to focus on a anchoring phenomenon to engage student. Individual models, small group consensus models, question formulation technique are highlighted in this 5E approach. Questions and personal experiences are encouraged in this collaborate space!

***Wooden Mystery Boxes - Direct & Indirect Observations***

**Daniel Roberti**

**Pittsford Sutherland High School**

**Highland Room C 2:00 – 2:50 PM**

Daniel Roberti walks you through a quick and easy way to make wooden mystery boxes that demonstrate how scientists utilize indirect and direct observations. This student-centered activity is a fun and engaging way to get them talking while using the scientific method!

***Lego + Modeling + Chemistry = YOU!***

**Donna Himmelberg**

**Fairport High School**

**Highland Room D 2:00 – 2:50 PM**

How can chemistry be taught collaboratively with toys? What does it mean to teach utilizing Modeling Instruction? In this workshop, participants will experience what it is like to be a chemistry student who develops and deploys models of compounds. Participants will be introduced to the AMTA (American Modeling Teachers Association) methodology as they expand content knowledge and explore what it means to be a modeler.

***The Chemistry of Wine Making***

**Lisabeth Liming-Allen, Avantor, Inc.**

**Erica Friel, Aldon Corporation**

**Highland Room B 3:00 – 3:50 PM**

Have you ever wondered what makes different wines taste differently? Wine is a complex mixture of chemical compounds in a hydro-alcoholic solution. The chemistry of wine and its resultant qualities depend on achieving balance between three aspects of the berries used to make the wine: Their sugar content, acidity and presence of secondary compounds. In this hands on workshop, we will be determining the differences in these qualities for many different types of wines!"

***More Time Teaching; Less Time Disciplining***

**Iris Pagan**

**Highland Room C 3:00 – 3:50 PM**

Teachers of science love doing experiments, whether they are hands-on kinds or demonstrations. How can the classroom environment be set up so that students are with you on the adventure of learning and doing the labs while discovering the wonderful phenomena you want to show? This presentation begins with focus on the most important element in the class, in this case, the teacher. Then the focus moves on to the student-teacher relationship which involves the quality of exchanges, both verbal and nonverbal. Lastly, I look at using seating to increase student involvement.

***Preparing High School Students to Succeed in their College Freshman Year***

**Nahyr D. Rovira-Figueroa, Ph.D. and Kermin J. Martínez-Hernández, Ph.D.,  
Department of Chemistry, St. John Fisher University.**

**Highland Room D 3:00 – 3:50 PM**

Providing opportunities to high school students to develop soft skills and content are important steps toward their success in college. However, in many cases that is not enough for their transition into college. In this workshop, participants will have an opportunity, through case studies, to discuss different scenarios that current freshmen face and engage in a discussion with their peers to develop strategies. Collaboratively, participants will develop and explore different strategies that will help high school students to be better prepared for college and beyond. In the end, facilitators will provide some strategies from the point of view of a university professor and what can be done to contribute to the student's success.