Monday | AM

Room	8:30am-9:15am	9:30am-10:15am	10:30am-11:15am
DC 1302	**Environmental Chemistry Symposium** (organized by Ray Clement) Dave McLaughlin, Cotyledon Environmental Consulting, Toronto, ON Denis Corr, Corr Research, Toronto, ON Ray Clement, President, EnviroAnalysis, Toronto, ON (all speakers have spent 30+ years at the Ontario Ministry of the Environment)		
ESC 146 (LAB)	**Glow-in-the-dark chemistry** (Paid Workshop) Brian Rohrig, Jonathan Alder High School, OH		
C2 273 (LAB)	**Solubility, precipitates and stoichiometry lab** Angela Fuller, Greece Central Schools, NY		**Mini Sessions** 1. Diana Mason 2. Robyn Ford 3. Anna George
DC 1304	**Chemistry outreach from 2 to 102** Al Hazari, University of Tennessee, TN	**Misconceptions in chemistry** (Paid Workshop) Al Hazari, University of Tennessee, TN	
MC 1085	**Teaching ALL of the grade 12 curriculum** Robert O'Connell, Toronto District School Board, ON	**Solving problems through problem solving** David Stone, University of Toronto, ON	
C2 361	**Introduction to process oriented guided inquiry learning (POGIL)** (Paid Workshop) Laura Trout, The POGIL Project, PA		**New inquiry labs for AP Chemistry from Flinn Scientific** (Exhibitor Workshop) Irene Cesa, Flinn Scientific, IL
QNC 1507	**Beyond the atom** Dave Fish, Perimeter Institute for Theoretical Physics, ON		**Heisenberg's uncertainty principle** Curtis Musser, Viewpoint School, CA
QNC 1506	**Teaching chemistry with 1:1 iPads - A Reflection on Year 1** Jean Weaver, The Prairie School, WI	**iLove teaching chemistry with iPads** Amy Roediger, Mentor High School, OH	
QNC 2501	**Why does chemistry become a mystery for students?** Mani Srivastava, D.A.V. International School, India, with Manju Patel	**Ethics in chemistry – "Do the right thing"** Terry Obal, Maxxam Analytics, ON	**Careers in chemistry** Terry Obal, Maxxam Analytics, ON
MC 2066	**Bubbly chemistry: the many uses and applications of surfactants** Jean Duhamel, University of Waterloo, ON	**Using Twitter to enhance communication and engagement in large enrollment classes** Bill Power, University of Waterloo, ON	**Choosing contexts and experiments that help students make connections in chemistry** Brian Corry, Arrowhead High School, WI, with Alan Schwabacher
ESC 149 (LAB)		**Chemistry for experienced Vernier users** (Exhibitor Workshop) Melissa Hill, Vernier Software & Technology, OR, with Elaine Nam **Maximum participants: 30**	
C2 168 (LAB)		**Exploring chemical reactions: Bringing chemistry to life** Sharon Geyer, Pomfret School, CT **Maximum participants: 30**	
ESC 319 (LAB)		**Exploring chemistry with NASA** Todd Morstein, Glacier High School, MT, with Monica Trevathan	

Room	2:30pm-3:15pm	3:30pm-4:15pm	4:30pm-5:15pm
DC 1302		**Discrepant Events Symposium** Organized by Andy Cherkas Presenters: John Eix, Ken Lyle, Natalie Miller, Doug De La Matter, Andy Cherkas and Al Hazari	
ESC 146 (LAB)	**AP Chemistry inquiry problem based laboratory experiments** Jesse Bernstein, Miami Country Day School, FL with Jeffery Bracken and Paul Price		
ESC 149 (LAB)	**Chemistry for beginner Vernier users** (Exhibitor Workshop) Jack Randall, Vernier Software & Technology, OR, with Elaine Nam **Maximum participants: 30**		**Inquiry-based chemistry with Vernier** (Exhibitor Workshop) Jack Randall, Vernier Software & Technology, OR, with Melissa Hill **Maximum participants: 30**
C2 168 (LAB)	**Adding lustre to teaching about metals** Chris Miedema, Ashbury College, ON	**Carolina investigations for AP Chemistry** (Exhibitor Workshop) Jen Black, Carolina Biological Supply Company, NC **Maximum participants: 30**	
ESC 319 (LAB)	**Rockets, reactions and ratios** Deborah Maloney, Hollis Brookline High School, NH, with Linda Saari **Maximum participants: 30**		**Make safety a habit!** **Flinn Scientific safety workshop** (Exhibitor Workshop) Irene Cesa, Flinn Scientific, IL
DC 1304	**Show me the (elements in) money!** (Paid Workshop) Al Hazari, University of Tennessee, TN		
C2 361	**Periodic nomenclature** Edmund Escudero, Summit Country Day School, OH	**Having fun with the routine: Lewis structures, oxidation states, nomenclature, and stoichiometry** François Gauvin, Université de Saint-Boniface, MB	
EIT 2053	**Using Brownian motion to estimate Avogadro's number** Herb Deruyter, Waterloo Collegiate Institute (retired), ON	**Chemical potential in focus – Osmosis and more** Regina Rueffler, Job Foundation, University of Hamburg, Germany	**Ideas for your grade 11 classes** Michael Jansen, Crescent School, ON
QNC 1506	**I have an iPad - Now what?** Gregg Dodd, George Washington HS, WV	**Use mobile learning devices to create a smart chemistry classroom** Diane Krone, North Jersey ACS Teacher Affiliates, NJ, with Elizabeth Howson	
MC 1056	**Demonstrations that promote wonder and inquiry** Brian Rohrig, Jonathan Alder High School, OH		
B2 350	**Five minute demos** Betty Catelli, Southington High School (retired), CT	**Easy and free – Two ways to liven up your presentations** Amy Roediger, Mentor High School, OH	**"Emergency lesson plans" for teaching chemistry across curricula** Marta Gmurczyk, American Chemical Society, DC, with Keith Lindblom
QNC 1507			**ChemGem 2013** Milan Sanader, Science Teachers' Association of Ontario (STAO), ON
QNC 2501			**Get more activity out of the activity series** Chris Miedema, Ashbury College, ON

8:30 AM – 11:15 AM

Symposium – Environmental Chemistry

Measuring our footprint: Examples of Ontario's Changing Environmental Landscape
Dave McLaughlin,
mclaughlin.environmental@gmail.com
Cotyledon Environmental Consulting, ON

Is the quality of Ontario's air, water, and land changing for the better or worse? How will we know? A brief look at past environmental legacies and a peek into future challenges.
Presentation, single block - DC 1302

Fresh Air Kids
Denis Corr, dcorr@cogeco.ca
Corr Research, ON

Children are particularly sensitive to air pollution. This project has educated children about the Air Quality Health Index, monitored the air around schools, and developed the best commuting ways and routes to schools with student involvement.
Presentation, single block - DC 1302

How scientists measure environmental pollutants: A classroom activity that really works!
Ray Clement, ray.clement@rogers.com
EnviroAnalysis, ON

A classroom activity is described that teaches how scientists really measure chemicals in the environment. It has been successfully used in high school, college, and even for groups of teachers!
Presentation, single block - DC 1302

8:30 AM

Single block sessions - 45 min

Why does chemistry become a mystery for students?
Mani Srivastava, mane11in@yahoo.com
D.A.V. International School, Maharashtra, India,
with Manju Patel

Chemistry! I am scared of it! Elements, compounds, chemical formulas, equations; spare me! But there is an entirely different side of the coin. Fear of chemistry arises from lack of understanding of the subject, which itself stems from following a random approach to learning it. Teaching as well as learning chemistry should follow a pattern, one which creates pieces that will eventually merge in the minds of students. As a chemistry educator, my role is to arouse interest and curiosity in youngsters.
Presentation, single block - QNC 2501

Teaching ALL of the grade 12 curriculum
Robert O'Connell,
robert.oconnell@utoronto.ca
Toronto District School Board, ON

An often heard complaint is that there is too much in the grade 12 chemistry curriculum to teach in one semester or semester equivalent, with labs. It will be shown that by using a variety of techniques it is possible to teach all of the curriculum, with at least 10 experiments/investigations, and include enhancements to help students going on into programs needing detailed chemistry.
Presentation, single block - MC 1085

Teaching chemistry with 1:1 iPads –A reflection on year one
Jean Weaver,
jweaver@prairieschool.com
The Prairie School, WI

What's it like teaching chemistry to students who are all equipped with an iPad? I'll share my experiences and thoughts on this hi-tech twist to the teaching/learning model.
Presentation, single block - QNC 1506

Chemistry outreach from 2 to 102
Al Hazari, ahazari@utk.edu
University of Tennessee, TN

The University of Tennessee, Knoxville Department of Chemistry, is conducting several chemistry outreach programs for area students, teachers and for the public.
Presentation, single block - DC 1304

Bubbly chemistry: The many uses and applications of surfactants
Jean Duhamel,
jduhamel@uwaterloo.ca
University of Waterloo, ON

This presentation will review some of the important properties of surfactants and their applications. In particular, examples taken from the latest research will illustrate the need for chemists to design the next generation of surfactants that are both more efficient and environmentally friendly.
Presentation, single block - MC 2066

Double block sessions - 105 min

Introduction to process oriented guided inquiry learning (POGIL)
Laura Trout,
troutl@lancastercountryday.org
The POGIL Project, PA

Explore the benefits of using POGIL activities in your classroom. This student centered approach to learning encourages students to question, use models, analyze data, provide evidence and improve communication skills.
Paid Workshop, double block - C2 361

Beyond the atom
Dave Fish, dfish@pitp.ca
Perimeter Institute for Theoretical Physics, ON

Explore a new resource developed by Perimeter Institute and CERN to introduce the Standard Model to high school students. Join us on a journey that starts with Rutherford scattering and ends at the Large Hadron Collider (LHC).
Workshop, double block - QNC 1507

Solubility, precipitates and stoichiometry lab
Angela Fuller,
angela.fuller@greece.k12.ny.us
Greece Central Schools, NY

Solubility rules, making a precipitate, and using stoichiometry will be the main focus of this lab. Teachers will have hands on experience and will be able to present the material so that students will be able to design their own lab.
Workshop, double block - C2 273

Triple block sessions - 165 min

Glow-in-the-dark chemistry
Brian Rohrig,
blrohrig@columbus.rr.com
Jonathan Alder High School, OH

Don't be left in the dark. Discover some new demos and activities involving light sticks, light bulbs, black lights, lasers, and more. All participants receive a bound manual, a black light, laser, and a plethora of other materials.
Paid Workshop, triple block - ESC 146

9:30 AM

Single block sessions - 45 min

Using Twitter to enhance communication and engagement in large enrollment classes
Bill Power, bill.power@uwaterloo.ca
University of Waterloo, ON

Email is no longer the primary medium of choice. Mediums such as text messaging and Twitter have replaced it as a more convenient and rapid choice for communication. I will present my experience using Twitter in large first and second year Chemistry classes at Waterloo over the last three years. I'll include my motivation, method of integration into the course, and how to most effectively engage students. Twitter is an excellent communication tool that can enhance the engagement of our students in an appropriate manner.
Presentation, single block - MC 2066

Ethics in chemistry – "Do the right thing"
Taras (Terry) Obal, tobal@maxxam.ca
Maxxam Analytics, ON

This presentation will provide a brief description of the Association of the Chemical Profession of Ontario and why it is important to have a self-regulated practice. The presentation will also emphasize that current and future professional chemists have a duty to safeguard the health and well-being of the public and the environment.
Presentation, single block - QNC 2501

Double block sessions - 105 min

Chemistry for experienced Vernier users
Melissa Hill, aharr@vernier.com
Vernier Software & Technology, OR,
with Elaine Nam

This workshop will highlight experiments for advanced high school, general, and organic chemistry courses. The workshop will feature our popular handheld data-collection solution, LabQuest 2.
Exhibitor Workshop, double block - ESC 149

Exploring chemical reactions: Bringing chemistry to life
Sharon Geyer,
sgeyer@pomfretschool.org
Pomfret School, CT

Chemical reactions are the most exciting part of chemistry class. Learn a hands-on and student-centered approach to sharing reactions with your students.
Workshop, double block - C2 168

Exploring chemistry with NASA
Todd Morstein,
morsteint@sd5.k12.mt.us
Glacier High School, MT,
with Monica Trevathan

Explore gas laws, stoichiometry and electrochemistry to solve some of the problems NASA has to deal with. Participants will realize the connection to everyday chemistry topics and relate them to NASA's problems of getting humans into space.
Workshop, double block - ESC 319

Misconceptions in chemistry
Al Hazari, ahazari@utk.edu
University of Tennessee, TN

Students develop their own understanding of how nature works. These pre-concepts are brought to school and teachers have to reflect on them for better instruction. In addition, there are school-made misconceptions which originate from inappropriate curriculum and instructional materials. This workshop aims to help 6-16 teachers and professors diagnose and cure students' misconceptions.
Paid Workshop, double block - DC 1304

Solving problems through problem solving
David Stone,
dstone@chem.utoronto.ca
University of Toronto, ON

This workshop will include hands-on activities using problem-solving to address common problems encountered with learning chemistry.
Workshop, double block - MC 1085

iLove teaching chemistry with iPads
Amy Roediger,
roediger@mentorschools.org
Mentor High School, OH

Participants will be exposed to a wealth of ways that iPads can be used to teach chemistry.
Presentation, double block - QNC 1506

10:30 AM

Single block sessions - 45 min

New inquiry labs for AP Chemistry from Flinn Scientific

Irene Cesa, djones@flinnsci.com
Flinn Scientifc, IL

This interactive, hands-on workshop can help you implement the revised laboratory investigations and curriculum framework for AP Chemistry! Join Flinn Scientific as we present two new guided-inquiry chemistry experiments that support the integrated learning objectives and applied science practice skills your students need for success. Pre-lab preparation and preliminary activities for each investigation have been optimized so teachers can effectively guide students and provide maximum opportunities for inquiry. Handouts provided for all activities.

Exhibitor Workshop, single block - C2 361

Heisenberg's uncertainty principle

Curtis Musser, camusser@gmail.com
Viewpoint School, CA

A presentation of Heisenberg's classical explanation of his uncertainty principle: The Heisenberg Microscope.

Presentation, single block - QNC 1507

Careers in chemistry

Taras (Terry) Obal, tobal@maxxam.ca
Maxxam Analytics, ON

This presentation highlights the breadth and diversity of opportunities for careers in chemistry. It also underscores the need to instill and nurture not only an interest, but a passion for chemistry in high school students in order to replenish a shrinking resource pool of competent and experienced chemists to support the industries that rely on them.

Presentation, single block - QNC 2501

Choosing contexts and experiments that help students make connections in chemistry

Brian Corry,
corry@arrowheadschools.org
Arrowhead High School, WI,
with Alan Schwabacher

A high school chemistry teacher and a professor of organic chemistry partnered to build a framework for designing experiments to help students make important connections in chemistry.

Presentation, single block - MC 2066

Mini sessions - 15 min

New curriculum mandates of a 4x4: Are improvements seen at the university level?

Diana Mason,
drdiana@alumni.utexas.net
University of North Texas, TX

Course success rates of freshmen/sophomores over four semesters in general chemistry (two prior to implementation of 4x4 high school curriculum and two after) are compared. Results indicate a positive swing.

Mini presentation - C2 273

Effects of class scheduling on student success in high school chemistry

Robyn Ford, robynford@my.unt.edu
University of North Texas, TX,
with Diana Mason

Changing curriculum, use of technology, and how to use resources efficiently are the major questions currently facing secondary schools. Yet the mantra of every educational decision is supposed to be "What is best for the student?" To this end, many secondary schools have experimented with class scheduling in an effort to maximize teacher expertise, student time, and access to courses. This study compared the effectiveness of two commercially available programs: a chemistry content drill program, Study Island and a Web-based brain-training program - Lumosity. The results will be presented.

Mini Presentation - C2 273

Influence of teacher content area certification on student success in high school science

Anna George, ageorge@uwlax.edu
University of Wisconsin, WI,
with Diana Mason

Teachers with specialized certifications have limited placement options while those with certifications to teach a broad range of courses may be asked to teach multiple courses within a year. Standardized testing is one of the predominant measures of the quality of instruction provided to students. Results indicate that schools with a higher percentage of teachers with some certification areas assigned to teach science classes tend to have a strong positive relationship with student success, while a large percentage of other certification areas tend to have negative relationship with student success. An overview of the impact of various science certification areas and recommendations for certification programs will be discussed.

Mini Presentation - C2 273

2:30 PM

Single block sessions - 45 min

Adding lustre to teaching about metals
Chris Miedema,
cmiedema@ashbury.ca
Ashbury College, ON

A series of demonstrations and hands-on activities will be performed related to the oft-neglected topic of metals. These demonstrations can help teach new concepts directly or be bundled with other topics.
Workshop, single block - C2 168

Periodic nomenclature
Edmund Escudero,
escudero_e@summitcds.org
Summit Country Day School, OH

Give your students the choice of memorizing a long list of anions and cations or use the periodic table as a means of deriving the names and formulas for all but 13 ions.
Presentation, single block - C2 361

I have an iPad: Now what?
Greg Dodd, gbdodd@gmail.com
George Washington High School, WV

Recently, many schools have become one-to-one iPad schools, but teachers have received little or no training in how to use the iPad effectively for science instruction. The goal of this workshop is to demonstrate how to use the iPad and all its potential effectively in the science classroom.
Presentation, single block - QNC 1506

Using Brownian motion to estimate Avogadro's number
Herb Deruyter,
hhderuyter@rogers.com
Waterloo Collegiate Institute (retired), ON

In 1905 Albert Einstein presented a theory of Brownian motion that suggested the experimental means to determine Avogadro's number, *N*. Jean Perrin reported an experimental value for *N* three years later. We recreate Perrin's experiment to estimate Avogadro's constant using dilutions of dairy milk and video projection. The method is readily adaptable to the high school or undergraduate chemistry and physics laboratory. The merits of the procedure are the unsurpassed ease of set up and data collection. Preliminary experimental work by the authors and high school students using this approach yield estimates of Avogadro's constant in good agreement with the accepted value.
Presentation, single block - EIT 2053

Five minute demos
Betty Catelli, bcatelli@sbcglobal.net
Southington High School (retired), CT

A number of short demonstrations will be shown, along with suggestions as to where they fit in the curriculum. Many use only household chemicals. All are easy to set up and require little special equipment.
Presentation, single block - B2 350

Double block sessions - 105 min

Chemistry for beginning Vernier users
Jack Randall, aharr@vernier.com
Vernier Software & Technology, OR,
with Elaine Nam

If you're new to the world of data collection with Vernier, or would like a basic refresher, this workshop is for you. Join us for hands-on practice using LabQuest 2– an enormously popular stand-alone device.
Exhibitor Workshop, double block - ESC 149

Rockets, reactions and ratios
Deborah Maloney,
deborah.maloney@sau41.org
Hollis Brookline High School, NH,
with Linda Saari

All students become interested when you take a common reaction to new heights by incorporating restrictions and challenges in this exciting inquiry based competition. Reactions, stoichiometry, gas laws and more!
Workshop, double block - ESC 319

Show me the (elements in) money!
Al Hazari, ahazari@utk.edu
University of Tennessee, TN

Come and do interesting and simple experiments with coins and paper money that show how chemistry impacts our daily lives.
Paid Workshop, double block - DC 1304

Demonstrations that promote wonder and inquiry
Brian Rohrig,
blrohrig@columbus.rr.com
Jonathan Alder High School, OH

About two dozen demonstrations will be performed that engage the student and foster critical thinking. Most involve minimal costs and set-up. Topics include light, microwaves, density, pressure, reactions, combustion and much more.
Presentation, double block - MC 1056

Triple block sessions - 165 min

AP Chemistry inquiry problem based laboratory experiments
Jesse Bernstein,
bernsteinj@miamicountryday.org
Miami Country Day School, FL,
with Jeffrey Bracken and Paul Price

Here is an AP lab workshop that will satisfy virtually all of your desires: over thirty-five inquiry and forensic based lab activities that parallel those now recommended (or required) by the College Board. The available manual contains detailed teacher notes, pictures of setups and sample data.
Workshop, triple block - ESC 146

3:30 PM – 5:15 PM

Symposium – Discrepant Events

Pressure power tower
John Eix, jeix@sympatico.ca
Upper Canada College (retired), ON

This discrepant event is used to review concepts related to the pressure exerted by a column of fluid.
Mini presentation - DC 1302

Entropic rubber band
Ken Lyle, kenneth.lyle@duke.edu
Duke University, NC,
with Natalie Miller

A rubber band is suspended on a metal rod and stretched using about 1.5 kg of mass. The band is then heated. Does the rubber band get longer or shorter?
Mini presentation - DC 1302

BBQ lighter gun
Doug De La Matter,
doug@dougdelamatter.com
(retired), ON

A BBQ lighter gun can be made from simple materials and is both safe and useful to the classroom teacher in many ways. Students are always interested in explosions but seldom appreciate the power that chemicals exert during such an event. This device shows the surprising speed and forces that result from the ignition of a single drop of alcohol. Often students fail to appreciate the importance of wearing safety glasses when doing labs. They are focused only on their equipment, not that of their neighbours. This is also useful when discussing combustion, rate of reaction, exothermic reactions and activation energies.
Mini presentation - DC 1302

Avogadro's hypothesis tested
Andy Cherkas, cherkas@sympatico.ca
Stouffville District Secondary School, ON

Acetylene [ethyne] gas is generated and mixed according to Avogadro's hypothesis and ignited. What the students predict does not happen! Why and what should the correct prediction be?
Mini presentation - DC 1302

The gray and white block: A critical thinking activity
Al Hazari, ahazari@utk.edu
University of Tennessee, TN

Check out this intriguing activity that could be used to talk about the various science disciplines and about the scientific method. Alternately, it can be used when discussing light, transparency, translucency, opacity, shadows, clouds, weather, etc.
Mini presentation - DC 1302

3:30 PM

Single block sessions - 45 min

Chemical potential in focus – Osmosis and more
Regina Rueffler,
Regina.Rueffler@job-stiftung.de
Job Foundation, University of Hamburg, Institute of Physical Chemistry, Germany

An easy access to the chemical potential μ will be presented as well as its application to phenomena such as osmosis. Find out among other things how to construct your own "osmometer" by use of a carrot.
Presentation, single block - EIT 2053

Easy and free – Two ways to liven up your presentations
Amy Roediger,
roediger@mentorschools.org
Mentor High School, OH

Participants will experience Nearpod and Socrative, two free services that allow for interactive presentations and assessment.
Presentation, single block - B2 350

Double block sessions - 105 min

Having fun with the routine: Lewis structures, oxidation states, nomenclature, and stoichiometry
François Gauvin,
fgauvin@ustboniface.ca
Université de Saint-Boniface, MB

Come and share simple strategies and tricks that make drawing Lewis structures, finding oxidation states, naming compounds, and carrying out stoichiometric calculations simple and fun! This session will include discussions and exercises.
Workshop, double block - C2 361

Carolina investigations for AP Chemistry
Jen Black,
Jen.Black@carolina.com
Carolina Biological Supply Company, NC

Bring inquiry to your classroom with new Carolina chemistry activities and see your classroom come alive. Carolina's new labs help students develop essential chemistry practices, understand core chemistry concepts, and learn chemistry through inquiry per the new AP Chemistry curriculum. Experience three different activities in this hands-on workshop. Handouts/ free giveaways.
Exhibitor Workshop, double block - C2 168

Use mobile learning devices to create your smart chemistry classroom
Diane Krone, kroned@comcast.net
North Jersey ACS Teacher Affiliates, NJ, with Elizabeth Howson

Discover how free apps for smartphones and netbooks can help improve classroom organization, increase productivity, support individualized learning, and make your students more independent learners in this hands-on presentation.
Presentation, double block - QNC 1506

4:30 PM

Single block sessions - 45 min

Make safety a habit! Flinn Scientific safety workshop
Irene Cesa, djones@flinnsci.com
Flinn Scientifc, IL

Join us for simple, practical, and effective solutions to increase safety awareness and improve safety in the science classroom! If you have questions about how to get students to comply with safety rules - or how to get action from your administration - this workshop will help you solve your safety problems. Issues to be discussed include right-to-know laws and teacher liability; lab ventilation; purchase, storage and disposal of chemicals; chemical inventory; spill control; and more!
Exhibitor Workshop, single block - ESC 319

Inquiry-based chemistry with Vernier
Jack Randall, aharr@vernier.com
Vernier Software & Technology, OR, with Melissa Hill

Do you need to add inquiry labs to your chemistry course? In this hands-on workshop, you will learn how to conduct a chemistry inquiry investigation using sensors with our LabQuest 2.
Exhibitor Workshop, single block - ESC 149

ChemGem 2013
Milan Sanader, msanader@cogeco.ca
STAO, ON

Enrich your high school chemistry class with demos recently published in the chemical literature. You will learn how to do these demos safely with new insights into how they work.
Presentation, single block - QNC 1507

Get more activity out of the activity series
Chris Miedema,
cmiedema@ashbury.ca
Ashbury College, ON

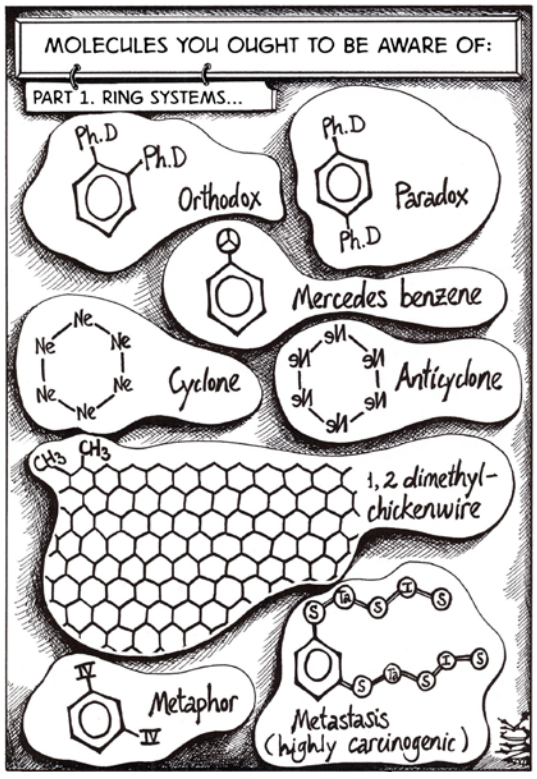
This presentation will introduce a series of demonstrations, laboratories and concepts that apply the activity series to art, metallurgy and corrosion to help students explore their world.
Presentation, single block - QNC 2501

"Emergency Lesson Plans" for teaching chemistry across curricula
Marta Gmurczyk,
m_gmurczyk@acs.org
American Chemical Society, DC, with Keith Lindblom

A variety of free "emergency lesson plans" are available from the American Chemical Society (ACS). They have been designed to supplement high school chemistry courses. Some of these lesson plans explore relationships between chemical and historical subjects and teach scientific concepts in a historical context. Others focus on demystifying everyday chemistry. These emergency lesson plans feature reading material, videos, and a variety of activities (available online) that can be used in combination or separately, and are easily implemented by a substitute teacher.
Presentation, single block - B2 350

Ideas for your grade 11 classes
Michael Jansen,
mjansen@crescentschool.org
Crescent School, ON

Come and get some useful resources – handouts, labs, etc – to enhance the learning of your grade 11 students.
Presentation, single block - EIT 2053



Cartoon by: Nick Kim (Nearing Zero)