

# Big Chem

## Daily Lessons Check Off

---

**Boom:** Download rosters, prepare seating charts for first day, set up PowerGrade preferences, categories, and groups.

**Boom:** This goes onto the Chalk Board for first day or so:

Big Chem

Mighty Physics

WELCOME BACK!

1. The Summer Assignment must be completed by tomorrow!
2. The Take Home Blitz on the Summer Assignment is due day after tomorrow.
3. Check the *Announcements Page* DAILY for info, assignments, and lab printouts.

Boom: Copy and paste this into the Announce Page:

**Here is the schedule for the First Week of School:**

**On-line Exam on the Summer Assignment** is due Tuesday.

**Historical Introduction Notes for Copying into your Notebook** are due in your *Notebook* on Wednesday. **These are to be HAND COPIED in INK.**

**Big Essay in-class Exam on the Historical Introduction is on Thursday/Friday.**

- Also for **Thursday/Friday**, you need to **BRING** to class the following:
- ... a candle (used one is good),
- ... matches or a lighter,
- Print and bring to class: **Experiment 1 Scientific Observation.pdf**
- Bring a used candle and matches for Labs.
- **The Symbols and Valences test will be in two weeks. Keep practicing them with the Formula Club software. When you get 10/10 each time, you are in good shape.**
- 
- **NOTE:** We do **NOT** turn in Notes. They stay in your *Notebook*.
- Good luck and get ROARING!

**Boom:** There will be 1000 points possible in the First Semester

# Big Chem

**THE TARDY POLICY:** We shall use the school wide Tardy Policy. If you arrive late, you must bring Boom your *PASSPORT* at NOON. Boom will sign it then. If a student is not in his seat when roll is taken when the bell rings, he's marked absent. When the Boom signs your Tardy Passport, then he will change the absence to a tardy.

*The Units below are listed in the order that we shall attack them.*

- \_\_\_ 1. PowerPoint *First Day of Class Introduction*,
- 2. Formula Club class drill: Symbols & Valence Drill.  
Import the Text file rosters from PowerGrade.
- 3. Start Historical Into PP. Boom: There is time for Democritus after the Drill.

**BOOM!** The Symbols drill is in "FORMULA CLUB" software!

**BOOM NOTE:** Students are NOT given access to PowerSchool for a MONTH! So, put their grades up on our web site in <http://cougar.slvhs.slv.k12.ca.us/~pboomer/grades/Classes/>

---

**BOOM NOTE:** Students are NOT given access to PowerSchool for a MONTH! So, put their grades up on our web site in <http://cougar.slvhs.slv.k12.ca.us/~pboomer/grades/Classes/>

Putting the Grades from PowerGrade onto the Web Page:

Open a class.

In Reports, select Preview.

In Name of Report, select Gradebook for Web Page.

In Options change the Date Range.

Click OK

Go to Reports/Preview

Select: Gradebook for Web Page

This opens Preview

*File/Save as... .pdf*

# Big Chem

If the grades take up more than one page: Snap a Picture of each page. Open each Picture, Copy and Paste into a Word document. Print to .pdf This is ready to upload to Grades/Classes.

---

**Boom: Crack down on illegible hand writing right away!**

**Boom: Labs now count 10 Points! AND... in *PowerGrade*, add zeros for those who are absent on the day the lab is done.**

**Boom: Let *Seating Charts* print the Lab Stations. This gives an even balance of students per table, and it separates social groups.**

**First Day, Special Schedule;**

- \_\_\_ PP First Day into. Demo: Formula Club Symbols Practice.
- \_\_\_ Lord Apple Symbols Class Drill. Download rosters.

**Historical Introduction**

**Boom: Historical Intro, with demos & video clips takes 4 hours.**

**Boom: Wear your wedding ring for Democritus**

**Prep Demos: leaf, Bluestone, sticks, gunpowder.**

- \_\_\_ Start Historical PowerPoint. Alchemy. Master notes and Symbols & Valences.
- \_\_\_ *DVD 24* In PP, *Atoms Democritus* (the wearing of gold off of a ring as evidence).

**Boom: Take home blitz on Summer Assignment. (The Course Info Sheet and the Take Home test both inform of stapling papers at home).**

- \_\_\_ Finish Historical / Bring Candle and Matches for Lab 1

**Boom: The Historical Intro takes 4 hours with video clips & demos.**  
**Retort, Mortar & Pestle, various apparatus around the room.**  
**Demos: for Alchemy: *Turn water into wine* (HN<sub>3</sub> fountain).  
*Burn H<sub>2</sub>O for Lavoicier.***

- \_\_\_ Blitz Historical (40), Open Hand Copied Notes / Lab 1

**Unit 1 Introduction**

**Boom-- Be sure they know not to turn in *Notes*, but only turn in *Assignments*.**

- \_\_\_ The Summer Assignment is DUE. Boom-- we now have a large quantity of printed symbols and valence Blitz (4-forms).

# Big Chem

**Boom:** You will need to print more Formula Club Tests.

**Boom:** Have kids print all labs from our website

**Boom:** Explain the on-line *Assignments*.

**Boom:** Do Labs 1-5 during the second hour of each period. That is, Chapter Lectures first hour and Labs second hour.

Assign Lab stations, show how lockers work.

**Boom:** GOGS ON when they are heating stuff & water.

\_\_\_ Lab 1 Observation of a Candle.

\_\_\_ Read Description of a Candle in PowerPoint.

\_\_\_ Exper 2 Melting Order (50min).

\_\_\_ Quick Critique Lab 2

\_\_\_ **Exper 3 Melting Point. Full Period! Boom Note:** This lab has been re-written to eliminate the overheating of the sample by direct burner. Now we do it with a hot water bath. No more Tickle Tickle... git outa here.

\_\_\_ Critique Lab 3

\_\_\_ **Demo Lab 4 (25) Have the kids print it out for the demo.**

\_\_\_ Go over Unit 1

\_\_\_ **Lab 5 Roar. Boom:** You need to pre-lab the The Calorie. It's in the Lab Printout and in PP Chem Labs. The lab needs a full hour for both parts.

**Boom--** Print up the Symbols and Valence Blitzes.

\_\_\_ Lab 5 Continued.

\_\_\_ Critique Lab 5 in PP.

\_\_\_ **Summary of Labs 1-5" in PP**

## Unit 2 Measuring and Calculating

\_\_\_ Start Unit 2

\_\_\_ Ass: Probs Unit 2

\_\_\_ Finish Unit 2

\_\_\_ In PP. *DVD 2B Powers of Ten*

**Boom:** Copy and Paste into the Announce Page: *Lab fees are \$10 payable to the PAC. Bring Boom your receipt and get 10 bonus points . Please PRINT your name and period on the back of the receipt.*

**Boom:** The BAM CAN is first demonstrated at the end of Unit 3. Again in Stoichiometry.



Print the Formulas Practice Sheet.

Print the Equations Practice Sheet.

## Unit 3 Matter

\_\_\_ PowerPoint.

# Big Chem

\_\_\_ Blitz Chs 2&3 Labs 1-5 (45 min). Give same day as we do Formulas. Then they can work on the Formula Practice Sheet afterward.

Boom: **Assign Equations Printout**. Print [Equations & Answers](#).

## Formula Writing

**Boom:** *Do Black Banana & Eight Zincs here because the LCD Projector will be off and the Laptop Computer away.*

**Note:** Two hours is too long for formulas so add in these demos and Dr. Don.

\_\_\_ If a time filler is needed, *DVD 3W Measurement, Accuracy & Precision*,

Boom demonstrated Accuracy and Precision already.

\_\_\_ **Formula Drill Sheet Handout Assignment**

\_\_\_ *Extra Help on Formulas is found in Unit 7*

\_\_\_ [Formula Club Qualification Test](#)

**Boom:** Paste into the Announce Page:

**How *Formula Club* Works.**

The *Formula Club* Test counts 50 points (Big!). If you get all correct, you receive 50/50. If you miss one, you get 45/50 and you are out of *The Club*. If you miss more than one, you score 0/50 (devastating!). You are IN *The Club*! You must come in each lunch at noon, PRACTICE for 25 minutes, and retake the test. If you fail, you come in again next lunch. When you pass, your grade will be changed to 45/50.

Boom: Equations PP lecture and demos take two hours.

Boom: Have kids print the Unit 5 Problem sheet to work on in class. It's in the Chem Lectures Page under Unit 5.

## Chemical Equations (Unit 6 in text, we'll do Boom's action instead)

\_\_\_ PowerPoint Intro to Reactions and Equations.

\_\_\_ Demo Types of Reactions/ Models / Burn It! / CH<sub>4</sub> Soap Bubbles Hold Bubble Horn Sideways! / Burning Water (Add Joy to the "burning water")

\_\_\_ **Assign Equations Printout**. Print [Equations & Answers](#).

\_\_\_ Finish Equations./ Prep for Blitz Equations & Types of Reactions.

Boom: You have Practice Equations from PP printed so you do not need the LCD. It's in "Blitzes, Chemistry".

\_\_\_ **Blitz Equations (30min)**

# Big Chem

**Boom:** For the Re-run Equations Blitz, we have PP Equations Review. And Equations on OverHead to save on the Projector Lamp.

Do the Review and Re-Run Blitz just before Stoichiometry.

**Boom:** When you have Loafers at the end of a period, give 'em a formula test and put them back into the club.

## Unit 5 The Mole

**Boom** Need cookies for %-age comp lab.

**Boom:** Have kids print the Unit 5 Problem sheet to work on in class. It's in the Chem Lectures Page under Unit 5.

\_\_\_ Unit 5 The Mole!

\_\_\_ Mole Size Simulation in PP.

\_\_\_ *DVD 3 W Moles and Equations, Dr. Don.*

\_\_\_ Start Lab 7 Cu wire in  $\text{AgNO}_3$  (30)

\_\_\_ Molar Mass Problems

\_\_\_ **PP with sample problems:**

\_\_\_ Continue Lab 7 Place Ag crystals in oven (20)

***Boom: Instruct how to use a Beaker Grabber, not tongs or TT holder to handle a hot beaker.***

***And DO NOT adjust a ring with a beaker on it!***

\_\_\_ Moles to Molecules or Atoms

\_\_\_ Continue Lab 7, weigh Ag crystals and...

\_\_\_ Start Lab 8 dissolve Ag in  $\text{HNO}_3$  Back in the oven (15).

***Boom: no longer a need to save lab 7 for lab 8.***

\_\_\_ Molarity

\_\_\_ Continue Lab 8, React with NaCl and filter (full period).

**Boom: The Critique for Labs 7 & 8 is in PP Chem Labs.**

\_\_\_ Finish Lab 7 & 8. Evaporate solution, weigh stuff and calculate. (full period).

\_\_\_ Preparation of Solutions

\_\_\_ Percentage Composition

\_\_\_ **Lab %-age composition of a Chocolate Chip Cookie (25).**

\_\_\_ Empirical Formulas

\_\_\_ Molecular Formulas

\_\_\_ Hydrates

\_\_\_ Lab Water of Hydration (35).

\_\_\_ **Print out Lab 10, Precipitates, do calculations for Lab 10.**

**Boom:** Lab 10 needs TWO electronic balances. One for NaI, the other for  $\text{Pb}(\text{NO}_3)_2$ .

# Big Chem

AND... we only need ONE of each reagent bottle instead of seven. Put the bottles on labeled sheets of paper with a spatula on each.

\_\_\_ Lab 10 Solutions (needs 1.5 periods with hints and calculations).  
Use the last half hour to write up the Lab and Re-run the 40 Equations Sheet, 10 Pts.

Work on Equations Review Sheet for Equations 2 Blitz.

\_\_\_ Critique Lab 10.

\_\_\_ *REVIEW for Blitz is in PP.*

*Also in "Moles" after the Mole Tunes.*

\_\_\_ Blitz Unit 5: (Needs full period).

Unit 6 is Equations, already done above.

**Boom:** Have kids print out the Unit 7 problems to bring to class. They are in the Chem Lectures page.

For Grading Period: do RAZORS PAIN YOU with props. It's in PP at the appropriate places.

Razors Pain You.ppt in PowerPoint with the Berkeley Campanile

Razors pain you

Rivers are damp

Acids stain you and

Drugs cause cramp

Guns aren't lawful

Nooses give

Gas smells awful

You might as well live.

*Dorothy Parker*

Equations Re-run Review and Blitz just before Stoichiometry.

**Boom:** Have student Print out the Unit 7 problems to work on them in class. They are in the Unit 7 lectures.

<http://boomeria.org/chemlectures/unit7probs.pdf>

Unit 7 Stoichiometry and Calorimetry

**Boom:** Have kids print out the Unit 7 problems to bring to class. They are in the Chem Lectures page.

\_\_\_ Mass-Mass problems

*The BAM CAN for Stoichiometry*

*(CH<sub>4</sub> + O<sub>2</sub> → CO<sub>2</sub> + H<sub>2</sub>O).*

Demo: Zn + S → ZnS with calcs. In PP.

# Big Chem

**Boom:** Have student Print out the Unit 7 problems to work on them in class. They are in the Unit 7 lectures.

<http://boomeria.org/chemlectures/unit7probs.pdf>

\_\_\_ Enthalpy Probs

**Boom:** The MacGyver calcs & demo + three review probs takes 55 mins.

\_\_\_ Demo: *Thermite reaction MacGyver in action...*

**Boom:** add some extra Al. Augment balance reading.

**Boom:** Wear you MacGyver Hat.

\_\_\_ Review Probs. On PowerPoint, do in class.

\_\_\_ **Blitz Unit 7 (30min).** The blitz works well into the Second Hour of Electrostatics below.

\_\_\_ **Ass:** Atomic Notes on line, hand copy it into notes.

*October 23 is MOLE DAY. (Show the MOLE TOONS). Mole day Tee Shirt.*

**Boom:** DO NOT form a ring around the demo table. Ya burned out your video output! Someone may have been standing on the cables. Have the kids form a ring up and down the columns of desks.

## Unit 8 Atomic Structure

**Boom** Bring **Big Key** for Becquerel

**Boom:** We'll do Electrostatics here instead of in Nuclear. (Save Nuclear Reaction Notes for Atomic Unit 28)

**Boom:** If the Wimshurst konks out, use the Van de Graaf with the top off..

**Boom:** Discharge yourself before touching the computer!

\_\_\_ **Electrostatics Kittee...** First Hour covers Static Demos, Wimshurst & Sparky. (Second hour is perfect for PP Intro with Sears Violet Ray, Dorothy's Shock PP video, and the 30 min Unit 7 Blitz).

**Boom:** To protect the computer, have the kids circle around the center column of desks. NOT around the demo table.

**Boom:** For Sparky and Kids, Secure LCD Projector and turn off its main power! Kids in the rows.

Cattle prodder plus Big Light Bulb is great for tube discharge.

**Boom:** The Atomic Theory Lectures take six hours including Electrostatics, the Atomic Structure Videos, Frankenstein, The Fox, Strange Case of Cosmic Rays, and Lab Abcertainers.

# Big Chem

9

- \_\_\_ Plasma Ball of Lightning Zappo zappo!
- Boom-- 1<sup>st</sup> hr (2hr day) we get thru Paddle Wheel Tube &
- \_\_\_ *DVD 24- In PP Video Atomic Structure 2, Discharge Tubes (10).*
- \_\_\_ Paddle wheel tube / Sir JJ / Millikan/ Ions (Boom- props for Becquerel, Mineral & Film).
- \_\_\_ *DVD 1A In PP - Tesla/Frankenstein Lab*
- Boom: Save Jacobs Ladder for Unit18 Plasma & Ions.
- \_\_\_ *DVD 24- In PP Structure of the Atom #3 Rutherford (10).*
- \_\_\_ *DVD 24- In PP Advanced Spectra (10)*
- \_\_\_ *DVD 24- In PP Wave Model (10).*
- \_\_\_ Isotopes / X-rays / Radioactivity / Rutherford / Size of Atom
- Boom-- Save Nuclear Reactions, Accelerators, and DVD *Conquest of the Atom* for Nuke Unit 28.

## Boom get Obscertainer Kits for Lab 24 This is...

- \_\_\_ **Boom Lab: Structure of the Nucleus (Lord Rutherford) (35min).**
- \_\_\_ Isotopes review / Size of nucleus
- \_\_\_ *DVD 25 Strange Case part A & B.*
- \_\_\_ **Boom: Both parts can be shown in 55 mins with no break. Break is not needed. This is a Field Trip worth 5 points.**
- \_\_\_ **Run PP 08.4 Rutherford Animation**
- \_\_\_ Blitz Atomic Theory (55 min).

**HALLOWEEN:** A Skeleton is a person with his inside OUT and his outside OFF.

- \_\_\_ **ON PP (new high quality recording) *DVD 61 Weird Homes (10) Halloween.* Boom—Alchemist Robe and Fez, AND the Boom Tie Dye Tee Shirt.**

**Boom: Spectra Tubes and Hippie Glasses are at home in the Pantry.**

## Unit 9 Orbitals

(Next Blitz is Chs 9-14)

Boom: Unit 9 takes two hours sans videos.

- \_\_\_ Spectra Demo / Quantum / Electron configuration
- \_\_\_ Orbitals Notes and Quantum Numbers
- \_\_\_ Electronic Structures and Dot Structures.
- \_\_\_ Demo: Springs and Waves.
- \_\_\_ Gyroscopes action
- \_\_\_ *DVD 24 In PP - Quantum Numbers (10).*
- \_\_\_ *DVD 4 W The Atom Orbitals and Spectroscopy.*

## Unit 10 & 11 Periodic Table

**Boom: Unit 10 & 11 Assignments are combined into one assignment.**

# Big Chem

10

*The PP Periodic Table takes 55min with Na demo & Video clips.*

\_\_\_ Na + water!

\_\_\_ **Demo: Nitrogen Triiodide Save for First day of State Review. Dry it high over a burner if not dry enough. Don't leave any over night!!**

\_\_\_ *DVD 31 Chemical Families CHEMS (22)*

\_\_\_ **In PP. DVD 2 B, Family of Halogens (4).**

\_\_\_ *DVD 31, Periodic Table BBC (24)*

\_\_\_ **In PP. DVD 1 A, Zinc Oxide (5).**

Boom save prep of Oxygen for Unit 18 Gassy Moles

## Unit 12 & 13 Chemical Bondage , Molecular Structure.

*Boom: Unit 12 & 13 Assignments are combined into one assignment.*

\_\_\_ Demo: Conductivity of Ions Boom: AgCl for liquid salt conductivity is in Demos 4 & 5 Box.

\_\_\_ *DVD 4-W, Periodic Table World of Chem.*

\_\_\_ Electron Configurations & Dot Structure.

**Boom: Lab 12 needs a full 500ml of Sodium Oxalate. We also have Ammonium Oxalate.**

Boom: The Ball & Stick Models are in the Pantry at Boomeria

\_\_\_ **Boom Lab: Molecular Models** (Boxes and Dots) (50 mins).

\_\_\_ Boxes and Dots

\_\_\_ *DVD 4-W Chemical Bonding (15).*

\_\_\_ Demo: *Splatter Test* on Board (evaporation and bondage).

\_\_\_ *DVD 5-W, Molecular Spectroscopy. (15)*

\_\_\_ *DVD 31, CHEMS Molecular Spectroscopy (good) (13)*

\_\_\_ *DVD 13, Ionization Energy show the first 10 mins.*

\_\_\_ Demo: Photocell & Street Light

\_\_\_ Crookes Radiometer/Tuning Forks

\_\_\_ *DVD 27, Molecular Motions-- Campbell, good Demos! (15 min).*

\_\_\_ Lab 12, Evidences for Reactions **2 hrs** with three teacher demos.

*Tell how to measure a milliliter of a solid.*

\_\_\_ *DVD 7-W, Metals (15).*

Boom: Remind the Counselors that Science does not want kids missing a week of school for Camp Counselors.

## Unit 14, Polar Molecules

Boom: The following demos go here:

# Big Chem

11

*After Myhbusters Microwave: **Blast a fuse!!** Loose metallic electrons conduct electricity in the microwave.*

*After Myhbusters MRI Tattoo: **Flying rings!** Interaction of magnetic fields in the MRI Tattoo machine!*

***Wesson oil + Ice cube:** Polar Molecules, Surface Tension, Densities, Immiscible liquids.*

***Ethanol & Water on chalkboard.** Volatility, Hydrogen Bond.*

***Ozone generator:** Allotropes.*

\_\_\_ Notes & on Polar Molecules

\_\_\_ *DVD 27, Shapes & Polarities of Molecules* (short) 14 min.

\_\_\_ *DVD 15, Physics and Chemistry of Water* (20).

\_\_\_ Boom: Run, for Review, PP *Chem Bonding College*.

\_\_\_ Blitz Units 9-14 on Orbitals, Periodic Table, Bondage, Polar Molecules. Needs full period.

Boom: Prepare the Ice Block Regelation demo for the A day before Christmas vacation.

Boom: **HONORS PHYSICS Recruitment.** Counselors start talking to students. Counselors want the Zero Period sign-ups early, too.



Unit 15, Kinetic Theory, Atmospheric Pressure, & Absolute Zero.

Boom: It takes two hours for *DVD 3-W, States of Matter (on Kinetic Theory (15))*, and the Kinetic Theory PP presentation & Demos.

\_\_\_ Kinetic Theory and Evidences to Support it.

\_\_\_ Demo: Surface Tension, ice in cooking oil in cylinder.

\_\_\_ DEMO: Pressure Manometer, Gauges/Temperature

\_\_\_ IN PP: Video Plasma the Fourth State of Matter.

Boom: Atmospheric Pressure, Demos, and ON PP *DVD 8-A Atmospheric Pressure in PP (5) and DVD 57, Gas Pressure & Molecular Collisions (13)* Takes just two hours.

\_\_\_ Demo--Discovery of Atmospheric Pressure- *The Earth Sucks Not*

\_\_\_ Mysterious Siphon / Quicksand

Boom: **The Quicksand is in the Chem Supply Vault in Organics.**

# Big Chem

- \_\_\_ DVD 2A, *Bond SuckOut* in PP
- \_\_\_ ON PP DVD 8-A *Atmospheric Pressure*
- \_\_\_ DEMO: Determine Absolute Zero
- \_\_\_ DVD 57, *Gas Pressure & Molecular Collisions (13)* Edited.
- \_\_\_ DVD W-3 *States of Matter Kinetic Theory. (Good!)*
- \_\_\_ On-Line: Blitz Unit 15 (45mins).

Final Exams Review Sheet Print-out from Notes & Reviews!  
The Winter Assignment. On website.

## Unit 16 Solids

### No SOB. On line blitz Unit 16

- \_\_\_ Unit 16 Notes & Prep for SOB Unit 16 Terms.
- \_\_\_ Probs due next.
- \_\_\_ DVD 38, *Crystals (20)*
- \_\_\_ DVD 8B, *NOVA BuckyBalls (44)* It has lots of Spectra Action and stuff we just studied! **GOOD!!!** (It inspired Dan Deeds to major in Chem).
- \_\_\_ DVD 34 *Considering Crystals (15)*
- \_\_\_ Lab Allotropic Forms of Sulfur (35)
- \_\_\_ Steel Mill Story (10).
- \_\_\_ DVD 42 *Steel Mill Action, Drama of Metal Forming (20)*.
- \_\_\_ DVD 6-W, *Chemistry of the Earth (15)*
- \_\_\_ On-Line Blitz Unit 16.

PRACTICE FINALS & VOCABULARY ON BLITZ DISK.

**WARNING!** Do NOT memorize or copy the answers to the practice exams. The real one is similar, but different!! You must read and think about the questions!

**Boom: Be sure you have SCANTRONS for Finals.**

**Boom: New lab stations next semester.**

### The Winter Assignment:

- On website go to Winter Assignment:
- Practice Review Sheet on web
- Web Site Review
- Blitz Disk Review
- Semester Exam
- Semester Vocabulary

## Unit 17 Liquids and le Chatelier

\_\_\_ Notes &

\_\_\_ Le Chatelier / Regulation /

**Boom:** Do the Ice Block Regulation demo on the A day before Christmas vacation.

\_\_\_ Equilibrium Demos--

CuSO<sub>4</sub> crystals in a beaker of H<sub>2</sub>O



H<sub>2</sub>O in a closed flask.



\_\_\_ Phase Changes

**Boom:** Save the Nitrogen Triiodide, NI<sub>3</sub>, demo for Qual when warm weather has the doors open and the NI<sub>3</sub> can be placed on the concrete outside the doors.

\_\_\_ Boom: Super Demo-- Vapor Pressure and Boiling Point, The Shocks, Duckies, Geyser, takes just under one hour. We do the PowerPoints for review and psychrometer in another hour.

\_\_\_ *DVD 12, CHEMS Equilibrium (17).*

\_\_\_ Fog in a 4-liter jug.. Use mouth, too, It's good! **Boom: Use a flashlight to show the fog within.**

\_\_\_ Lab 19 More Equilibria (Needs full period).

\_\_\_ ***ON-Line Blitz Unit 17 (40 min)***

## Unit 18 Gases & Gas Laws

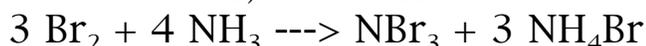
(Next Blitz ), ON-Line, is Chs 18-23)

\_\_\_ Start Unit 18 The Gas Laws

***Boom: Make Bromine demo is in the Unit 18 PP notes all worked out***

***Boom: Bring CCl<sub>4</sub> from home.***

\_\_\_ Make Bromine, takes most of hour with calculations.



\_\_\_ SOB on Partial Pressure & Gas Laws on PP.

## Unit 19 Gassey Moles

***Boom: Make Oxygen demo is in the Unit 19 PP notes all worked out (50).***

\_\_\_ Demo Make Oxygen (50 min). 3 liters, Gassey Moles calc.

# Big Chem

**Boom:** Make the Lab 9 Mg ribbons 50 mm long. (Otherwise the H<sub>2</sub> doesn't reach the graduate.

\_\_\_ Lab 9, Molar Volume 40 minutes. **Boom:** do Lab 9 after starting Unit 19, Molar Volume calcs.

\_\_\_ *DVD 28- Gases and How They Combine (18).*

\_\_\_ On-Line SOB on Gassey Moles (also on PP).

Boom: 2008, 2009 we almost finished Unit 19.

**Boom:** CHECK THE FORM NUMBERS on each SCANTRON exam when you detach them. A student may copy a neighbor's exam and change the form number to agree with the neighbor's!

**Unit 20 Entropy!** This lesson with V-5W, *Driving Forces*, takes two hours.

\_\_\_ Notes

\_\_\_ *PP Blow up a Whale (PP Special Pictures)*

\_\_\_ Demo-- Bubbles in evacuated flask. The Bends, Hot water has bubbles.

\_\_\_ *DVD 5-W Driving Forces, Entropy. (15).*

\_\_\_ ON PP *DVD 2-B Titanic Engine Room, (7).*

\_\_\_ ON PP *DVD 1-A Blow up The Dunes Hotel (5).*

**Boom** *In 2008 and 2009, we finished Unit 19 Gassey Moles.*

**Boom: Final Exam Scantron Grading.** Give aid to those who have turned in all work well done.

*Print Grades Only in PowerGrade to see previous Grade.*

\_\_\_ *DVD-44 The Chemical Elements, a History (before finals) (45)*

\_\_\_ FINALS

Boom: New lab stations next semester.

**Boom:** Time to recruit for Zero Physics! End of March. Be careful not to start too early as the kids may not know what courses they are taking yet. Check with Counselling first.

\*\*\* SECOND SEMESTER \*\*\*

Unit 21 Solutions

- \_\_\_ Notes
- \_\_\_ Ionic Equations
- \_\_\_ Ammonia & HCl Fountains.
- \_\_\_ In PP. *DVD 11, Dynamics of Solutions*

## Unit 22 Colligative Properties

- \_\_\_ Notes
- \_\_\_ Emulsions & Colloids

## Boom-- e-mail the counselors:

Hi Noreen & Leslie, Jeannette (Career specialist)

Ah, it will soon be that time when Science Camp and others will try to recruit free camp counselors (baby sitters) from our student body.

PLEASE do NOT allow Chem & Physics students to do this. To miss a week of these classes is a disastrophe!

Thanks!!

## Class Wipeout!

CASHEEE EXAM 10<sup>th</sup> graders! They return when done.  
So... In-class (for 11<sup>th</sup> graders and returnees), Redo the  
80 FORMULAS DRILL SHEET, and the  
40 EQUATIONS PRACTICE SHEET.

- \_\_\_ Lab 11 Precipitates (55 with lab blab). Boom: Just use the big box of Sets and let the kids take each set from it instead of putting the Sets out on the tables. This works GREATLY.

## Unit 23 Reaction Rates

- \_\_\_ PowerPoint Notes
- \_\_\_ Hot Ball + Gasoline/ Boil in Paper Cup/ Burn Sugar
- \_\_\_ Spontaneous Combustion/ Make CO<sub>2</sub> with Vinegar & Soda, extinguish Candle, Burn Magnesium Ribbon.
- \_\_\_ Miners lamp. Boom: Use a burning gas jet and wire screen. Better than a burner.  
Standing waves in 2-meter tube. Whooshhhh!
- \_\_\_ In PP. *DVD 11, Temperature and Matter (6)*
- \_\_\_ Demo: Big oxidation-- Put an M&M into boiling KClO<sub>3</sub> WOW!
- \_\_\_ Dust Explosion!
- \_\_\_ *DVD 11, Energy and Reaction (11) (not the same as Energy & Rockets).*

# Big Chem

- \_\_\_ Lab 14 The Clock Reaction (55min).  
Boom: If the reaction is too slow, add more  $\text{H}_2\text{SO}_4$  to Solution B. If it is not dark enough, add more Sodium Metabisulfate to Solution B.  
Boom: Assign Tables as 1,2,3. The directions are in the lab printout.
- \_\_\_ The Big "K"  
**Field trips on one paper:**
  - \_\_\_ *DVD 11, Reaction Rates & Equilibrium (20)*
  - \_\_\_ *DVD 6-W Chemical Kinetics (15)*
  - \_\_\_ *DVD 6-W Catalysts (15).*
  - \_\_\_ *DVD 29, Energy and Rockets (25)*
  - \_\_\_ ~~*DVD 12 (CHEMS) Catalysis (20)*~~
- \_\_\_ Blitz, ON-Line, is Chs 18-23 Gases, Entropy, Solutions, Reaction Rates.

## Unit 24 Acids, Bases and Salts

*Boom: Units 24 & 25 Assignments are together as one assignment.*

Next Blitz is Chs 24-25 ON-LINE

- \_\_\_ Notes Acids, Bases, Salts-- Properties
- \_\_\_ Moth-a-Balla Action
- \_\_\_ Net Ionic Equations
- Boom-- **Batman Tee Shirt!**
- \_\_\_ Batman meets Deadly Acid
- \_\_\_ *DVD 6-W Acids & Bases (15)*

**Boom: Demo 5 and Lab 23, Titration go greatly for a two hour period!**

- \_\_\_ Demo 5, Neutralization
- Boom: Need Stuff from Home for Exper 23 Part II
- \_\_\_ **Exper 23 Titration** (1.5 hours) / Need home stuff for Part II
  
- \_\_\_ Ionization Constant
  
- \_\_\_ *DVD 15, Acid Base Indicators (20).*
- \_\_\_ **Lab 18, Acid-Base Indicators (1 hour).**
- \_\_\_ Demo pH paper on lab unknowns
- \_\_\_ The pH Scale
- \_\_\_ Acid-Base Indicators

First Grading Period, 2004

# Big Chem

**Boom:** Have kids print out **Appendix 8, Appendix 10** from website and bring to class. We Shall need these on the first day of REDOX.

## Unit 25 Solubility Product and pH

- \_\_\_ Go over Unit
- \_\_\_ Start Lab 16 (Ksp) (15)
- \_\_\_ Finish Lab 16 (30).
- \_\_\_ Ass: Prep for Formula Test & New Formula Club.
- \_\_\_ Blitz is Chs 24-25 ON-LINE
- \_\_\_ Formula Test

Unit 26 REDOX & Unit 27 Electrochemistry in the Same PP presentation.  
*Boom: Units 26 & 27 Assignments are together as one assignment.*

**Print:** [Appendix 8 Half-Reactions Chart](#),

**Print:** [Appendix 10 Solubility of Compounds](#)

**Print:** **Lab 20, and Lab 22.**

**Print:** [Appendix 8 Half-Reaction Assignment Problems](#)

**Print:** [Ups and Downs Assignment for class work.](#)

**Boom:** **Bring CCl<sub>4</sub> from Boomeria**

\_\_\_ Demo: **Cupric Chloride + Al ---> Big Redox**

\_\_\_ Half-Reactions Demos-- Big Meter

\_\_\_ Print the Appendix 8 Assignment.

\_\_\_ **In PP: DVD 2-A, Bond Conductivity (2) It's in PowerPoint**

\_\_\_ More Appendix 8 Equations

**Boom:** Appendix 8 assignment will be done in class (have 'em copy the ten problems from **Overhead** to save the LCD Lamp). This takes about 50 minutes with sample probs, etc. Have students attach this assignment the Unit problems which will be assigned next week.

**Boom:** The Oxidation Number Assignment (printed out) takes about 10 mins.

\_\_\_ Start Oxidation Numbers, followed by...

\_\_\_ Blitz on Appendix 8 REDOX (20min). Followed by Start Oxid. Numbers assign, followed by...

\_\_\_ **Lab 20-- Redox (55min).** Boom: this is a new lab sans metals.

**Boom— PowerPoint Chem Labs, "Rules & Assignment for Oxidation Numbers and Appendix 8 & 10**

\_\_\_ Start Predictions for Lab 22

**Boom: On Announce Page have students** [Print Ups and Downs Assignment for class work.](#)

# Big Chem

*DVD 7-W Redox.*

Boom: Show *DVD 13, Bromine (19)* just before lab 22 as an example of making a prediction by Appendices 8 & 10.

## End of first grading period, 2<sup>nd</sup> semester March 7, 2008

Boom:: Have kids do predictions in class (30 mins) then go to Lab 22 (1.5hrs). Perfect.

\_\_\_ Predictions for Lab 22, App 8

\_\_\_ *DVD 12, Nitric Acid (20)* (after oxid. nos.)

\_\_\_ Check Predictions / Lab 22 (1.5 periods).

\_\_\_ Redox by Oxidation Numbers

\_\_\_ Give hints for Redox Probs / Attack the Boom Probs

Boom: Ups & Downs assignment will be started in class. The ten problems. Have students print them. They are on the Lectures page. Attach this assignment to the

Unit problems which will be assigned next time.

\_\_\_ Blitz Redox by Oxidation Numbers

Boom: Bring  $\text{CCl}_4$  for the Electrolysis demo!

Boom: Demo Electrolysis of KI (on PP).

\_\_\_ Electrolysis of Water and KI.

\_\_\_ Zee Quick Boil

\_\_\_ *DVD 27, Electrochemical Cells (short) (10)*. Good for REDOX review.

\_\_\_ Assign Problems Units 26 & 27.

Boom: There is no Blitz Units 26 & 27. Just the two SOB's on Appendix 8 and Ups & Downs.

\_\_\_ Blitz Ups & Downs (25).

## Unit 28 Nuclear Chemistry

\_\_\_ Start Nuclear Unit 28

Boom: Have kids print the Nuclear Reactions Assignment (in Lectures page). Work on it in class.

\_\_\_ Accelerators / Nuclear Reactors

\_\_\_ Van de Graaf zapper

Boom: Discharge yourself before touching the computer!

\_\_\_ *DVD 64 Conquest of the Atom (17)*

\_\_\_ Finish Nuclear

# Big Chem

19

- \_\_\_ In PP *DVD 71 Atomic Bomb Test, Nevada Desert (10). Tickling the Dragon's Tail.*
- \_\_\_ In PP, *DVD 10 Radioactive Dating (12)*
- \_\_\_ Use Power Point Nuke Review. NO HANDOUT NOTES. We have a new Nuke Review Blitz, too.
- \_\_\_ Blitz Unit 28 ON Line.
  
- \_\_\_ **Demo: Nitrogen Triiodide. Dry high over a burner if not dry enough.**

## Unit 29 Organic Chemistry

**Boom:** There is an SOB Checkoff list to keep track of which SOB's have been given which periods.

- \_\_\_ Start **Organic** Notes
- \_\_\_ Mini Blitz / Structural Formulas / Drill
- \_\_\_ Mini Blitz / Alkanes / Practice
- \_\_\_ Mini Blitz / Alkane Reactions / Alkenes More
- \_\_\_ Bring Aspirin tomorrow for Lab.
- \_\_\_ Mini Blitz / Alkene Reactions / Polymerization / Petroleum
- \_\_\_ Mini Blitz / Alkynes

**Boom:** There is an Overhead with a Big SOB (through Polymerization) for use if there is a class screw up, like for an assembly. It's called *SOB on Organic Chemistry Big*.

**Boom:** Do the *Proof of Alcohol on Gunpowder* demo right before showing *DVD 34, Refinery Processing (20)* so that the Projector will be off for the smoke to clear.

- \_\_\_ Lab Melting Point (25)
- \_\_\_ *DVD 34, Refinery Processing (20)*
- \_\_\_ Mini Blitz / Aromatic / Alcohols / Carbonyls / Acids / Esters
- \_\_\_ *DVD 7-W Petroleum & Polymers (15). Show this after Amines.*
- \_\_\_ Example esters / Lab Esterification (40 min)
- \_\_\_ *DVD 4-W Organic & Esters (15).*
- \_\_\_ Grand Lord Apple Review /
- \_\_\_ Lab Organic Esters this is on-line. (40 min).

**Boom:** The Ball & Stick Models are in the Pantry at Boomeria.

**Boom:** Bring molecular models from home.

- \_\_\_ Lab *Organic Molecular Models*. (45 min).
- \_\_\_ In-Class Review assignment, 20 points. Print from

# Big Chem

<http://boomeria.org/notes/organic.html>

\_\_\_ *W-7 Biochemistry (15)*. STAR ask some Biochem.

\_\_\_ Big Organic Blitz is also ON-LINE

## STAR Test prep:

Request assistance to obtain and return testing materials because of Zero period preventing me from hobbling up, getting materials, hobbling back, and organizing the testing materials early.

Seat the kids alphabetically. Have kids bubble in the Test Numbers. Separate the answer sheets from the test booklets because they will have a different booklet each day.

---

**Boom: For Qual, assign: *Enter the Qual Zone* and follow the directions.**

## Announce Page:

**Prepare for the great STAR exam! You get a grade boost if you do well on the STAR!**

Click here for the Review Notes for the State Standards Exam:  
[Review Notes for the State Standards Exam.](#)

**Your Spring Assignment, 50 Points:** Hand copy the review notes in ink! Learn them as you copy them! This is due Mon 4/14. I suggest working on it over the Spring Break!

\_\_\_ ASSIGN: PRINT the QUAL THEORY NOTES AND CHECK OFF SHEET FROM OUR WEB SITE, THE QUAL ZONE!

**BOOM--** Lord Apple shall assign lab stations for Qual. This is to split up friends who “work together”. MacSeats has a template for Lab Stations.

**BOOM--** We'll have a computer formula test (8/10) before kids can start lab. To keep it moving, kids get to go until the third error. Then they must let someone else go. They will work on the Formulas Drill Sheet while waiting for the next try. Stamp the Check Off Sheet when they pass (8/10).

# Big Chem

**BOOM**— Silver Flow Sheet must be stamped off before they start lab.

*April 18, 2006: While reviewing for the STAR exam, we start Qual with theory and how to do a flowsheet. Qual lab started on April 20. STAR exam next week.*

*April 20, 2009: Qual is introduced after the 80 Point Star Practice Test is gone over the most missed items. Qual will start during STAR test this week.*

## Qual Roars

**WARNING:** Anyone doing unauthorized experiments (screwing around with the chemicals) will be removed from lab for the rest of the year!

**Boom:** Qual reagent bottles that need new labels: Do this during Final Exams (it takes about an hour).

**Boom:** Set-up instructions for Qual: This is printed out in the Chem Chapter Demos Folder.

**Label and fill the Unknown Vials during the CHASEE tests and/or during Organic.**

1. We shall now place the following in the Fume Hood:  
16M HNO<sub>3</sub>, 18M H<sub>2</sub>SO<sub>4</sub>, 12M HCl, Thioacetamide, and (NH<sub>4</sub>)<sub>2</sub>S, and 8M NaOH.
2. Set up Centrifuges.
3. Set out Qual Reagent boards and fill the Knowns.
4. Prepare the Stannous Chloride solution.
5. Put up the Qual Signs:  
How to obtain Unknown  
Research Mode  
Qual Crimes  
Pitchers & Poachers
6. Qual Computers ready.
7. Demo student Qual Rack with distilled water bottle..
8. 250 ml beaker and Hot Distilled Test Tube for demo.

# Big Chem

Boom: Qual Lab will be open at Lunch only during the Last Week of Qual only for those who are behind.

Boom: Hang onto the Qual Cards for a while to check for “duplicates” and other scams.

\_\_\_ Demo: Nitrogen Triiodide,  $\text{NI}_3$ , shifting equilibrium by changing concentration of the  $\text{NH}_4\text{OH}$  by evaporation. Put the  $\text{NI}_3$  on the concrete just outside the doors.

**WARNING: Handle the beaker with grabbers to keep iodine off of the fingers!!**

**STAR Testing and Exam Review:**  
On-line in Notes and Review page.

REMEMBER: BUBBLE IN THE TEST FORM LETTER & BOOKLET NUMBER!!

**Boom: The PP State Reviews, 1 & 2 take 2.5 hours.**

If the Spring Break is in good place, add to the Announce Page:

*For those who want to get a head start over the Spring Break, you must **Hand Copy** the on-line REVIEW NOTES for the STAR REVIEW. This must be done before you may start your Qual labs! ...*

.... [Click here for the Review Notes for the State Standards Exam.](#)

## Lessons for review:

Hour 1 Remind the due date for the Assign: *Hand Copy the on-line review notes.* These will be worth 50 points.

*DVD 7-W Petroleum & Polymers (15).*

*Run PP State Standards Review 1 (30min).*

Hour 2 *Run PP State Standards Review 2 (30min).*

*W-7 Biochemistry (15).* STAR asks some Biochem.

Hour 3 **1. Run PP Common Assesment Review (30min), then...**

2. Give Chemistry Common Assessments Exam. 80 points. Use SCANTRON answer cards, not Data Director! This exam takes one hour.

Hour 4 Go Over the 80 Point Blitz, in *PowerPoint* (35 mins).  
Intro to Qual. Make flow sheet.

---

## SUMMER ASSIGNMENT HANDOUTS

Chem Final is Chs 18---> (includes gas laws).

*\*\* On May 8, 2009, we have 19 more teaching hours in Chem.*

Go to [The Spring Semester Final Exam Review](#). On-Line is found on the Chem/Physics page.

Boom: Finals, Number the Qual Tubes for next year.

PRACTICE FINALS & VOCABULARY ON BLITZ DISK.

**WARNING!** Do NOT memorize or copy the answers to the practice exams. The real one is similar, but different!! You must read and think about the questions!

Boom: CHECK THE FORM NUMBERS on each SCANTRON exam when you detach them. A student may copy a neighbor's exam and change the form number to agree with the neighbor's!

Boom: Grading. Print *Grades Only* to show what the grades are before the Final Scantron grades are added. Thence the Scantron Grades can be edited appropriately.

Boom: Save vacuuming the LCD projector until after the Friar Bacon Gunpowder demo next year. Big Smoke!