Physical Science Mid-year Exam FAQ

What should I bring?	2 pencils, your calculator (with fresh batteries), and a printed periodic table of your choice. You can write whatever you want on the front and back of the periodic table, and two additional 8½ x 11 sheets. The sheets must be handwritten or typed by YOU - no printed material except for periodic tables, and you may not copy anyone else's work.
How long will we have?	90 minutes
If I finish early, can I leave?	No.
Then what do I do if I finish early?	Anything at your desk that is quiet. Read a book. Study for another exam. Count the holes in the ceiling tiles. Memorize the periodic table. Listen to tunes on your IPod as long as the person next to you can't hear them.
Does it count on the second term?	No. It is a separate grade on your report card.
How much is it worth?	The midyear exam and the final exam in June are *each* worth 10% of your final grade. Each term is worth 20%, so this exam is like half of a term. It's IMPORTANT.
How many questions are there?	Enough to take you 90 minutes. There are some multiple choice questions, some fill-in-the-blank questions, and some problems you have to solve.
How does the grading work for Level 1 and Level 2?	The exam is out of about 125 points. The usual grading scale applies: 100 is a Level 2 A, and a Level 1 B. 101 is a Level 1 B+, etc. The Level 1 questions are mostly at the end.
Is it hard?	No harder than the previous tests and quizzes.
How should I study?	1. Review all your old quizzes and tests. Try to answer all the questions without looking at your answers. Pay particular attention to those that gave you trouble. 2. Review your notes, handouts, and lecture notes on the web. Write the most important and difficult to remember stuff on the back of your periodic table. 3. Make up problems and exchange them with a friend to solve. Argue about the right answers, and ask MrH if you aren't sure.
What does it cover?	Everything we have studied so far. Review the specific topics for each unit on the web if you want a detailed list. You can also review the attached list for a summary. An approximate breakdown of the points by topic area is on the back of this handout.

Approximate points by topic area:

Measurement / Significant Digits	10
Metric basic units - what for what?	5
Metric – Metric conversions	5
Metric – English conversions	5
Other unit conversions (quinks, etc)	10
Graphing Data	10
Scaling	15
Floor areas and wall areas	5
Atomic Models	10
Flame tests / photon emission	5
Interpreting the Periodic Table	10
Ions and Ionic Bonding	10
Covalent Bonding	+5
Total Level 2	105
Additional Level 1 Questions	20
Total Level 1	125

For your science midterm you should be able to do the following things involving measurement:

1. take precise measurements using meter sticks, protractors, graduated cylinders, and scales/balances
2. estimate the metric mass, length, volume, area, or duration of a given object/event
3. include correct units with all measured and/or calculated values
4. use measured values to determine metric/metric and metric/English conversion factors
5. convert length, mass, temperature, volume, and area values within the metric or English measurement systems
6. convert length, mass, temperature, and volume values between the metric and English measurement systems
7. recognize the need to convert units in order to solve a given problem
8. construct a line graph or scatter plot to represent measured data and utilize said graph to draw reasonable conclusions
    - collect and organize data
    - utilize a data table as graph adjunct
    - select appropriate axes (x- independent, y- dependent)
    - determine ranges and acceptable interval values
    - properly select and place graph title
    - plot data, determine best fit line
9. construct and use scales (as you did in your Dream House)
10. calculate floor and wall areas (as you did in your Dream House)

For your science midterm you should be able to do the following things involving chemistry:

1. describe the development of modern atomic theory, including the evidence upon which improvements to the atomic model were made.
2. produce atomic models/diagrams that demonstrate the charge and location of protons, neutrons, and electrons.
3. define the term photon.
4. relate flame test results to the structure of the atom.
5. utilize flame test results to differentiate and identify specific elements.
6. use dot diagrams to signify the number of valence electrons for a given atom.
7. define ionic bonding.
8. use dot diagrams to model the formation of ionic bonds between two stated elements.
9. recognize the relationship among an atom's position on the periodic table, the number of valence electrons it contains, and its chemical behavior and physical properties.
10. name simple ionic compounds.
11. figure out the formula of an ionic compound from its name
12. create a Lewis structure for a molecule from its name and vice versa