This is a review worksheet. You can get up to 3 extra credit percentage points by completing this worksheet. Please write in answers to each question. By doing this, you will help yourself review the material in these chapters and will be well prepared for the test. **YOU MUST HAND IN THIS SHEET AT THE BEGINNING OF THE TEST PERIOD TO GET ANY CREDIT.** Place the sheet on the front desk when you enter the room, as I will not ask for them. You will get 3 points if the answer sheet is completely filled out, 2 points if it is mostly filled out, 1 point for more than half filled out, and zero for any less than half or not turning it in.

**ITEMS WHICH WILL BE PROVIDED**
- Periodic Table and list of elements from the inside front and back covers of your textbook.
- Any necessary constants from Table 1.9 or the inside back cover of the textbook or for unit conversions.
- Equations for density, temperature, and heat.
- Ideal gas law and combined gas law.
- You will need to bring your calculator.

**WHEN YOU ARRIVE AT THE TEST:**
- The instructor will arrive immediately after the preceding class.
- Turn in this review sheet when you arrive.
- Get out your pencil(s) and calculator. Put all else away.
- Pick up a MC sheet, test, and periodic table.
- Sit in any seat you wish, keeping at least one empty seat between you and your neighbor.
- You may begin immediately. Read instructions on test.

**ABOUT THE FORMAT OF THE TEST:**
- The test will have 35-40 multiple choice questions. There will be 4 answers per question, and only one will be correct. There will be no penalty for wrong answers.
- **You will need a #2 pencil** for the test because it is machine graded.
- You will need to bring your calculator
- If for some reason you miss the test (not something I condone except in extreme circumstances) **IT IS YOUR RESPONSIBILITY** to contact me to arrange for a make up test. **Contact Donna de Vries (email or x6293).**

**HOW TO PREPARE:**
1. Fill out this review sheet. The act of writing and/or rewriting the answers to problems and the definitions will improve your understanding and memory.
2. Do the practice problems.
3. To practice multiple-choice, review previous year's tests and the MC examples from class.
4. Copies of the tests from two years ago are available on the course web page.

**ABOUT THE HOMEWORK:**
- Any and all questions from homework are fair game. In general, I will not give exact reproductions of homework questions, but questions similar in form, style, or concept.
- Answer keys for the assigned homework will be available on course web page by Thursday. It is your responsibility to check your assignment against the answer key to ensure you understand what you have done.

**TO MEMORIZE**
- Table 6.8—Comparison of Bonding and Attractive Forces.
- Figure 6.6—Changes of state,

At the end of each chapter is a glossary. You need to know these terms.

**QUESTIONS**

**Chapter 6: Energy and Matter**
What is energy?

What are the different types of energy? Include examples.

What are the two common units for measuring energy?

What are the three major sources of fuels used for energy in the U.S.?

Collectively, these three fuels are called _____ fuels.

How much energy is used, per person, in the U.S., in units of watts?

Compare and contrast the calorie and the nutritional Calorie.

What are the conditions required for a reaction to occur?

What is ΔH?

What is activation energy?

What do the terms *exothermic* and *endothermic* mean?
Draw an energy diagram of an exothermic reaction with a large activation energy.

In an endothermic reaction, energy could be considered as which of the following? a reactant or a product

What is specific heat? What common material has a very large specific heat?

Compare and contrast the properties of gases, liquids, and solids.

Describe dispersion forces between molecules.

Describe dipole-dipole forces between molecules.

Describe hydrogen bonding.

Order the above three forces from weakest to strongest.

What two factors contribute to the variation in melting and boiling points of different substances?

Define all the terms in Figure 6.6.

What is Hubbert's Peak? Why is it important?

Explain what the terms abad and shamar mean, especially in reference to stewardship of creation.

Chapter 7: Gases

What are the three main gases in the atmosphere?

Does the temperature of the atmosphere increase or decrease as you go higher in altitude?

What is the Ideal Gas Law?

What is pressure?

Why does R have more than one value?

Describe the Kinetic Theory of Gases

What does temperature describe, in terms of the KTG?

How do you use the Ideal Gas Law to obtain the other gas laws, especially the combined gas law?

What is STP?

What is the molar volume (volume of 1 mole) of a gas at STP?

Define normal boiling point.

What is vapor pressure?

How are vapor pressure and boiling point related?

What is partial pressure?
PRACTICE PROBLEMS

Note that these are all problems for which you have answers in your solutions manual. These problems, in class examples, and problems from your homework may show up in similar form on the test.
I find the following method to be useful for doing problems. Without referencing the solutions manual, start doing a problem. When you get stuck, look up the step you can't figure out, then close the solutions manual and continue working the problem. Do this until you have completed the solution. Throw away that sheet of paper and start working the problem again. Repeat this process until you can complete the problem without using the solutions manual and without having memorized the solution—that is, when you UNDERSTAND how to do that kind of problem.
The spaces below do not necessarily reflect the length of the problem. They usually are shorter.