

**Preview Sheet for Test 2**  
**Periodic Trends in Atomic Properties and Chemical Bonding**  
**Friday, October 10, 2008**

Chapter 1 (pp. 40-46), Chapter 2 (pp. 60-83), Chapter 3 (pp. 95-106; 115-123)  
Lectures from 9/17 to 10/2; Problem Sets 4, 5, and 6;  
Experiments 3, 4, and 5

Studying strategies:

- Focus on your lecture notes and homework first, then look at the textbook. Anticipate some conceptual questions not based on the homework.
- If a topic was not covered in homework or in lecture, you are not responsible for it! Please ask me if you are unsure about whether a particular topic is “fair game” for the exam.
- Some specific things you should know (not a comprehensive list!): the chemical principles underlying Experiment 3, the in-class demonstrations, the basic ideas of VSEPR theory and shape names for steric numbers 1-4 from Experiment 4, the molecular orbital energy level diagrams for diatomic molecules, interpreting and drawing the shapes of molecular orbitals from Experiment 5
- Do extra problems at the ends of the chapters. In particular, work the odd-numbered exercises paired with the even-numbered exercises you were assigned for homework. (The answers to the odd-numbered exercises are in Section C at the back of your textbook.) If you are stuck on a problem, please come talk with me or one of the student tutors.

[From the test booklet:]

Instructions before starting the test:

1. Write your name in the space above and on the backs of the other pages.
2. This exam is closed-everything.
3. Your exam booklet should have **six** pages total, with questions on pp. 2-5, and a periodic table on p. 6. Check to see you have six pages now. If you do not, ask for another copy of the exam.
4. You may use programmable calculators, but chemical data should not be stored in them.
5. You have **60 minutes** to work on this exam. Do not start until you are instructed to.

Test-Taking Tips

- Read the problems carefully.
- Pace yourself. Try to make your effort on a given problem proportional to the number of points that it is worth.
- If you can't figure out how to begin a problem after thinking about it for a couple of minutes, go on to the next problem.
- Please ask me if a question doesn't make sense.