

Test 1 Preview Sheet
(Atoms, the Periodic Table, and Chemical Bonding)
Chapters 7, 8, 9, and Section 10.1; Lectures from 9/8 to 9/29

Studying strategies:

- Do extra problems at the ends of the chapters. If you do not have access to the solution for a given problem, please come talk with me to check your work.
- Focus on your lecture notes and homework first, then look at the textbook.
- Expect to see a little nomenclature on the exam.
- If a topic was not covered in homework or in lecture, you are not responsible for it!

[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 pages 2-5, and a periodic table and other information 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. To receive full credit for a mathematical problem, you must show the method by which you obtained the final answer, including dimensional analysis.
6. You have **60 minutes** to work on this exam. Do not start until you are instructed to.

What not to memorize (they will be provided on page 6 of the test booklet):

- (1) The periodic table
- (2) The information below:

$$c = \lambda \nu \qquad \frac{1}{\lambda} \equiv \tilde{\nu} \qquad E = h\nu \qquad E_{\text{photon}} = \Phi + KE$$

$$\Delta E = -\mathcal{R}Z^2 \left(\frac{1}{n_f^2} - \frac{1}{n_i^2} \right) \qquad \lambda = \frac{h}{mv}$$

$$N_A = 6.022 \times 10^{23} \text{ particle mol}^{-1} \qquad h = 6.626 \times 10^{-34} \text{ J s particle}^{-1} \qquad c = 2.998 \times 10^8 \text{ m s}^{-1}$$

$$1 \text{ m} = 10^9 \text{ nm} = 10^{10} \text{ \AA} \qquad \mathcal{R} = 2.178 \times 10^{-18} \text{ J particle}^{-1}$$

Test-Taking Tips

- There will be a variety of question types: multiple-choice, short answer, essay questions, and calculations.
- Pace yourself. Try to make your effort on a given problem proportional to the number of points that it is worth.
- Read the problems carefully.
- 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.