

Ch. 7 – Quantum-Mechanical Model of the Atom and Ch. 8 Periodic Trends & Properties of the Elements

| Topics | Video Title | Video Link | Length | Problems | Pages |
|--|--------------------------|---|---------------------------------|--|---|
| Quantum mechanics, wave-particle duality, electromagnetic radiation, drawing of wave from page 300 w/amplitude and wavelength, frequency, electromagnetic spectrum, photoelectric effect, photon/quantum, emission spectrum | Light and Matter | http://www.bozemanscience.com/ap-chem-010-light-matter | 5:37* *Watch only first 5:37 | FP 7.1, CC 7.1, FP 7.3, CC 7.2, SAQ #1 | 297-311 SKIP pages 303-304 and 312-321 |
| Orbitals, quantum numbers, principal quantum number (n), angular momentum quantum number (l), draw shapes for s, p, and d orbitals | Quantum Mechanical Model | http://www.bozemanscience.com/ap-chem-007-quantum-mechanical-model | 4:35 | CC 7.6, Draw in your notes – Figure 7.21, #57, #63, #67 | 322-328 |
| Electron configurations, ground state, Pauli Exclusion principle, Coulomb's law (state the three important conclusions in short bullets), effective nuclear charge, aufbau principle, Hund's rule, valence electrons, core electrons, and periodic table drawn with 4 blocks labeled (like figure 8.7) | Electron Configurations | http://www.bozemanscience.com/ap-chem-005-electron-configuration | 10:16 | CC 8.1, FP 8.1, FP 8.2, FP 8.3, CC 8.4, FP 8.4, FMP 8.4, SAQ #1-4, SAQ #7-9, #41 (full configuration- not noble gas), #45, #57 | 337-352 |

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|---|--------------------|--|-------------|---|--|
| <p>Atomic radius, effective nuclear charge, paramagnetic, diamagnetic, cation and anion size compared to atoms and WHY, ionization energy and trends, electron affinity and trends, metallic character and trends, electronegativity and trends</p> | <p>Periodicity</p> | <p>http://www.bozemanscience.com/ap-chem-006-periodicity</p> | <p>8:47</p> | <p>For these problems: Justify your answer. CC 8.5, FR 8.5, FMP 8.5, FP8 8.6, FP 8.7, CC 8.6, FP 8.8, FMP 8.8, FP 8.9, SAQ #11-15, #61, #63, #65, #69, #71, #73, #75, #78</p> | <p>352-368 <i>and</i> 396-400 (some of Ch 9 here) SKIP pages 369-372</p> |
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