

The Modern Atom

Featuring Quantum Mechanics!

- 1) Explain how the flame test results in different spectra for different elements.
- 2) Explain the basic idea behind spectroscopy.
- 3) What is the energy of an electron with a frequency of 5.6 GHz?
- 4) What are quantum numbers? Explain what each quantum number stands for.
- 5) Explain Hund's rule.
- 6) Write the electron configurations (both the short and long versions) for the following elements: Na, Pb, Pu, Lr

- 7) On the other side of this sheet, write the orbital filling diagram for Ca.