Practice Quiz
Electronic Configuration and Chemical Periodicity Name_____

For questions 1, 2 and 3 please do the following:

a. Draw an energy diagram
b. Write the electronic configuration
c. Answer the questions given.

1. Cobalt
   a. How many electrons are in the fourth shell?

   b. Cobalt (II) Oxide has been used for centuries as a coloring agent because it provides a deep shade of blue to fired pottery - where we get the color name: cobalt blue. What is the electronic configuration for this ion?

2. Tin
   a. The common oxidation states of tin are +2 and +4. Explain this fact in terms of likely electronic configurations.

   b. How many electronics are unpaired in the tin atom?

3. Molybdenum (not generally covered in 201 but since this is a practice quiz I'll use this example)

   a. How many electrons have $\ell = 2$?

   b. Molybdenum(VI) chloride, $MoCl_6$, is a brown solid. What is its electronic configuration of the molybdenum ion?

4. Place the following sets of atoms in order by size - smallest to largest

   a. P, Ag, Fr

   b. Na, Al, Cl

5. Explain why Caesium is much more reactive than sodium by discussion the ionization energy of these atoms.