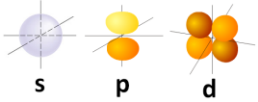
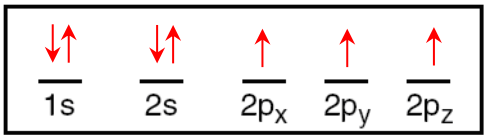
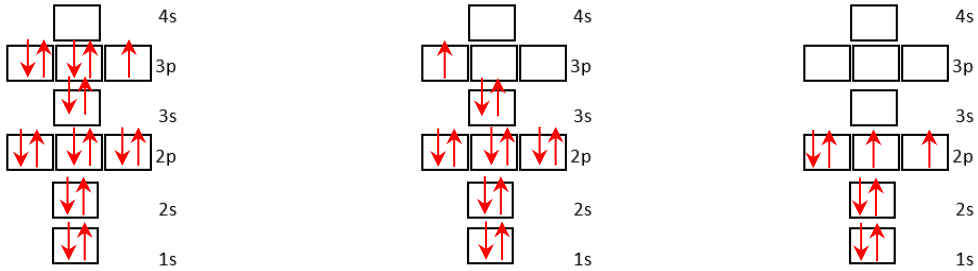
Chapter 4 Practice Test (PreIB)

Question	Standard
Write the full electron of… 1) Sulfur $1s^2 2s^2 2p^6 3s^2 3p^4$ 2) Titanium $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$ 3) Tellurium (yes, really… the FULL config) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^4$	Can I write an element's full electron configuration?
Write the noble gas electron configuration of … 4) Aluminum $[Ne]3s^2 3p^1$ 5) Yttrium $[Kr]5s^2 4d^1$ 6) Indium $[Kr]5s^2 4d^{10} 5p^1$	Can I write an element's noble gas electron configuration?
7) Describe: energy level **distance** the electrons are from the nucleus 8) Describe: sublevel **area of probability** of the electron's location 9) Draw an "s" "p" and "d" orbital. What do each of these represent? An area of probability of the electron's location  10) How many p orbitals are in a p sublevel? There are 3 p orbitals in the p sublevel	Do I know the parts of the quantum mechanical model?
Identify each element based on its electron configuration. 11) $1s^2 2s^2 2p^4$ Oxygen 12) $1s^2 2s^2 2p^6 3s^2 3p^2$ Silicon 13) $[Kr]5s^1$ Rubidium 14) $[Ne]3s^2 3p^3$ Phosphorus	Can I identify an element based on its electron configuration?
Represent the electrons in an orbital diagram. 15) Nitrogen:  16)  Cl: _____ Al:_____ O: _____	Can I correctly represent the electron in an orbital diagram?
Write the electron configuration of each ion: 17) Cl^{-1} $1s^2 2s^2 2p^6 3s^2 3p^6$ 18) Al^{+3} $1s^2 2s^2 2p^6$ 19) Na^{+1} $1s^2 2s^2 2p^6$ 20) Se^{-2} (yes, the full electron config) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6$	Can I adjust an element's electron configuration if it has a charge?

21) Why do we use the Quantum Mechanical Model of the atom today and not Bohr's planetary model? Bohr's model was too specific. Heisenberg's Uncertainty Principle says that we are not allowed to know the position and momentum of the electron at the same time because the electron's mass is so small. Instead, the Quantum Mechanical Model allows us to know the probability of the electron's location. 22) Describe the movement of the electron in the flame test lab. The electron begins in the ground state. When energy is added, the electron jumps to the excited state. The electron cannot stay there. It falls back to the ground state releasing the extra energy in the form of light.	Do I know the scientists and principles that contribute to the QMM?