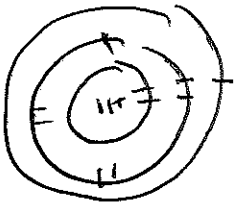
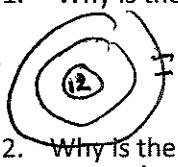
Topic Reminder Q4
Periodic Trends
#2-4

	1st ionization kJ/mol	2nd ionization kJ/mol	3rd ionization kJ/mol
Sodium	550	1400	1700
Magnesium	700	1100	

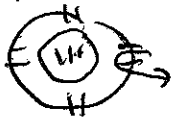
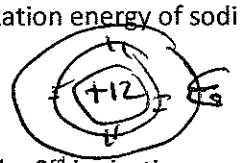
Ionization energy

1. Why is the 1st ionization of magnesium larger than the 1st ionization of sodium.

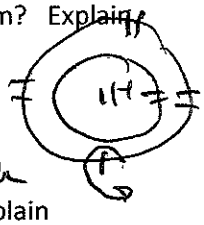
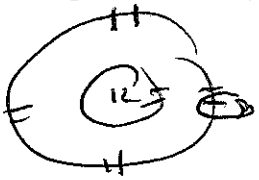
More p+, causing more Coulombic attraction making it harder to remove or break ↑

2. ~~Why~~ is the 2nd ionization energy of sodium higher than the 2nd ionization of magnesium.

Na, due to e⁻ being removed is at a closer energy level

3. Would you predict the 3rd ionization energy of magnesium to be (higher/lower) than the 3rd ionization of sodium? Explain

Mg, same approx distance but Mg has more p+

Radius

4. O (<>) then F? explain

smaller
↑ Coulombic due to more p+

5. O^{-2} (<>) then Ne? explain

smaller
↑ Coulombic due to more p+

6. Na (<>) then Ne? explain

smaller
↑ Na has 1 more energy level so it is much bigger

7. Na^{+} (<>) then F^{-1} Explain

smaller
↳ due to more Coulombic attraction