H/W Questions

1) How does the structure of the atom change across a period and down a group?

2) How does this affect the ionisation energy (How easy it is to remove an electron)?

3) How does this newfound understanding help us explain why K reacts more violently with water than Na?

4)In our demonstration reaction (adding sodium and potassium to water) why was the water alkali after the reaction?

- Draw an electronic structure diagram for sodium (Na), potassium (K) and chlorine (Cl).

- H/W question 1) How does the structure of the atom change across a period and down a group?

- H/W question 2) How does this affect the ionisation energy (How easy it is to remove an electron)?

- Atoms can lose or gain electrons to form ions with full outer shells of electrons.

- Anions (-ve charge)
- Cations (+ve charge)

- In reactions where ions are formed:
- Metals lose electrons forming cations.
- Non-metals gain electrons forming anions.

- H/W Question 3) Why does K react more violently with water than Na? (Think about your answer to H/W Question 2)

- H/W Question 4) In our demonstration reaction why was the water alkali after the reaction?

- $2Na(s) + 2H_2O(l) \rightarrow 2NaOH(aq) + H_2(g)$

- A base is a substance that neutralises an acid. Bases such as metal oxides and metal hydroxides **react** with acids to form **neutral products**.
- Bases that are also soluble in water are called alkalis.
- Examples of alkalis: sodium hydroxide
- All alkalis are bases.