Year 10 C Pathway

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INTRODUCTORY CHEMISTRY

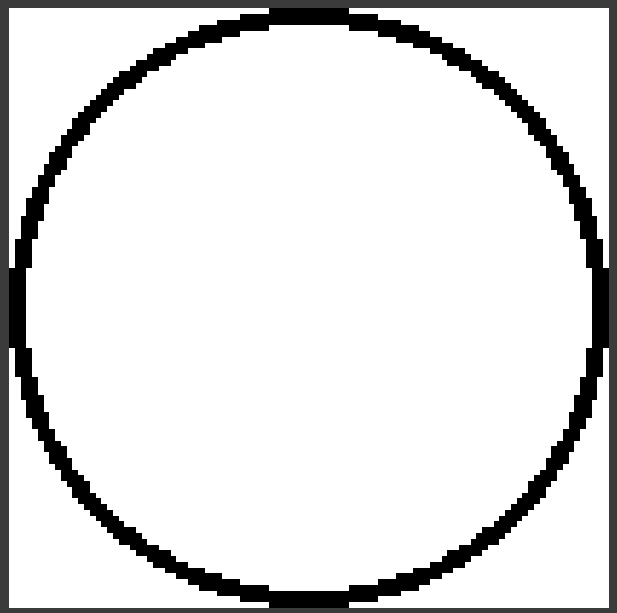
Outcomes

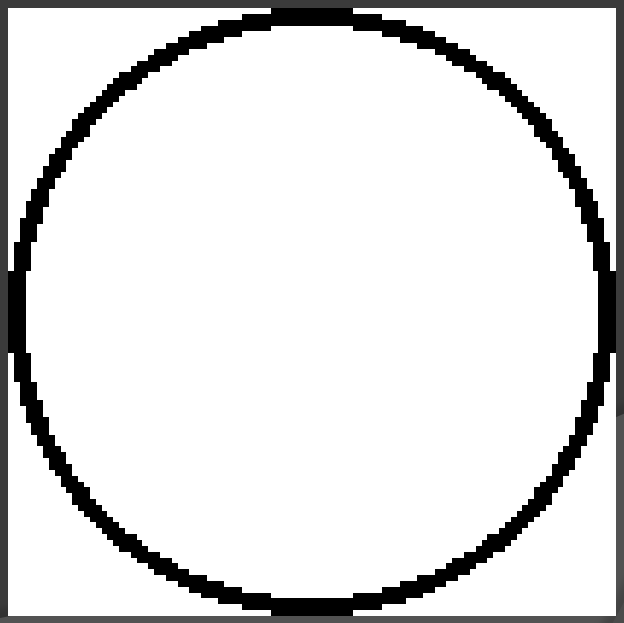
- Note the difference between elements, compounds and mixtures
- Understand an ionic compound is a combination of a positive ion and a negative ion
- Draw a diagram to show the lattice structure of ionic compounds

Element, mixture or compound?

- Element – matter comprised of only one type of atom

Element (1 type of atom)

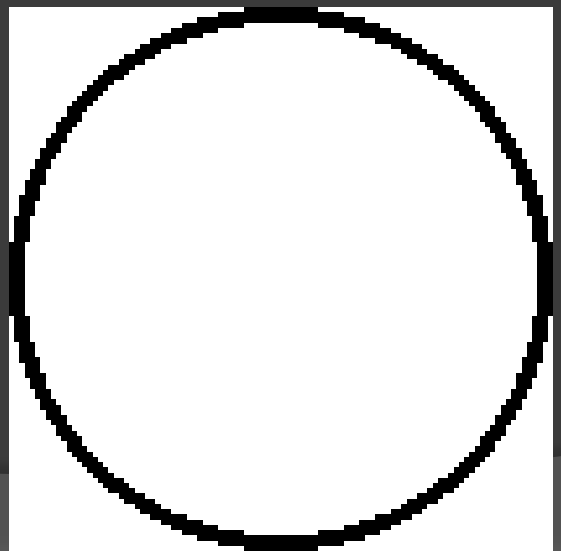




Element (1 type of atom)

Element, mixture or compound?

- Compound – two or more elements **chemically** combined. Compounds cannot be separated easily
  - Eg: A molecule of water is made up of two hydrogen atoms and one oxygen atom



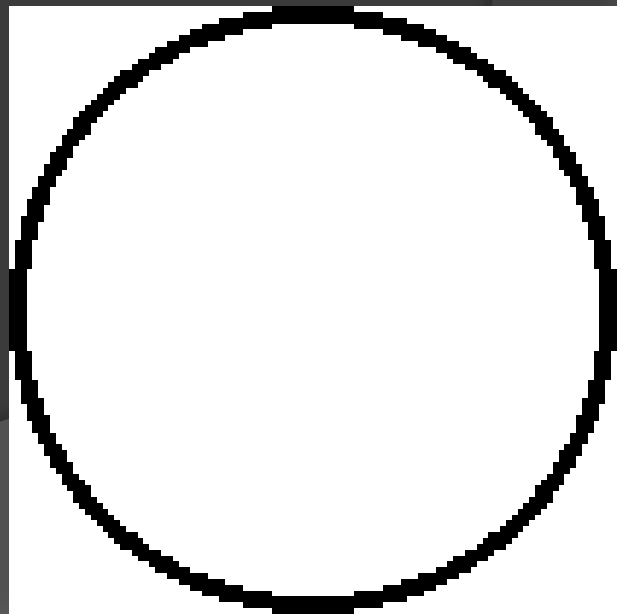
Hydrogen atoms

Compound

Oxygen atom

Element, mixture or compound?

- Mixture – A combination of elements and/or compounds that are mixed together. They can easily be separated again
  - eg: air is made up of separate gases mixed together

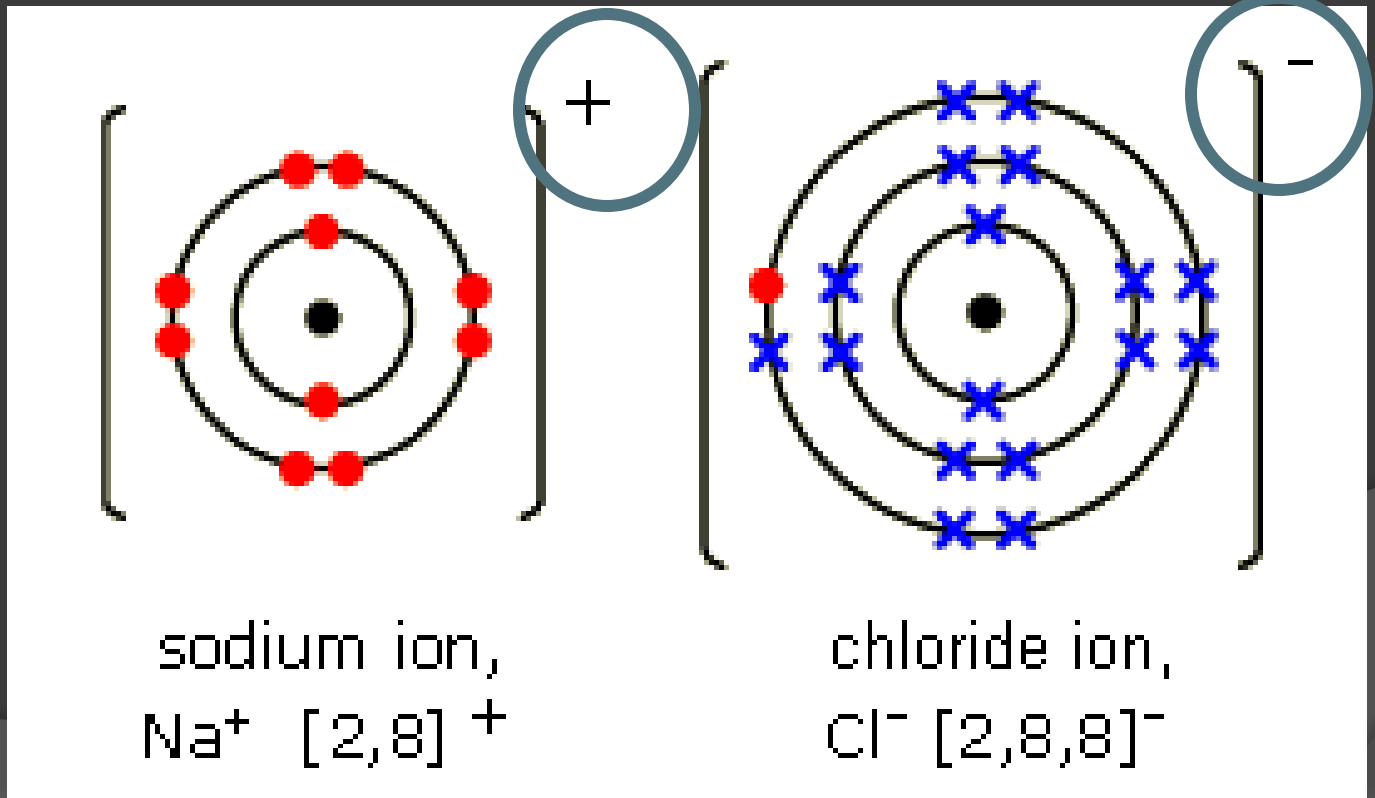


Element, mixture or compound?

- Elements – Carbon, oxygen, calcium
- Mixtures – Iron filings in sand, salty water
- Compounds
  - Ionic Compounds
  - Covalent Compounds

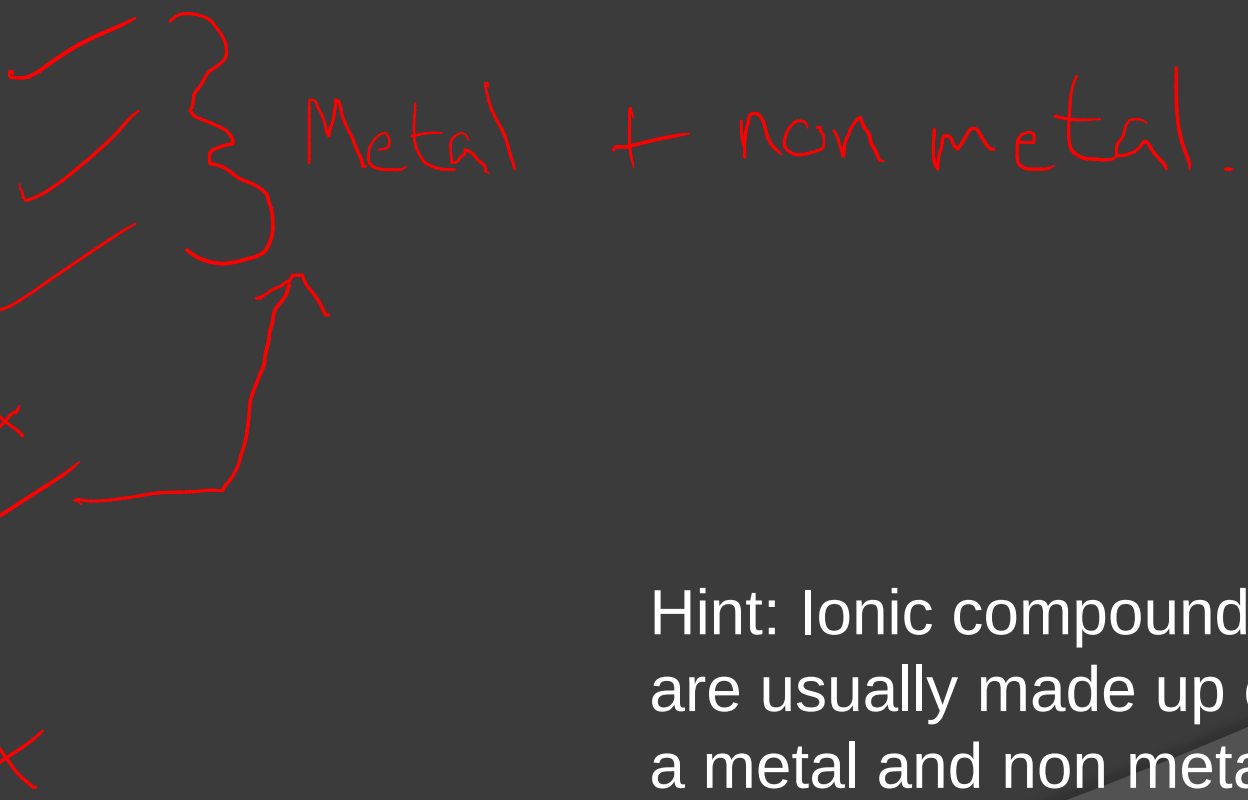
Ionic Compounds

- An ionic compound is a compound formed when a positive ion (metals) and negative ion (non –metals) attract each other



Which of these are ionic compound?

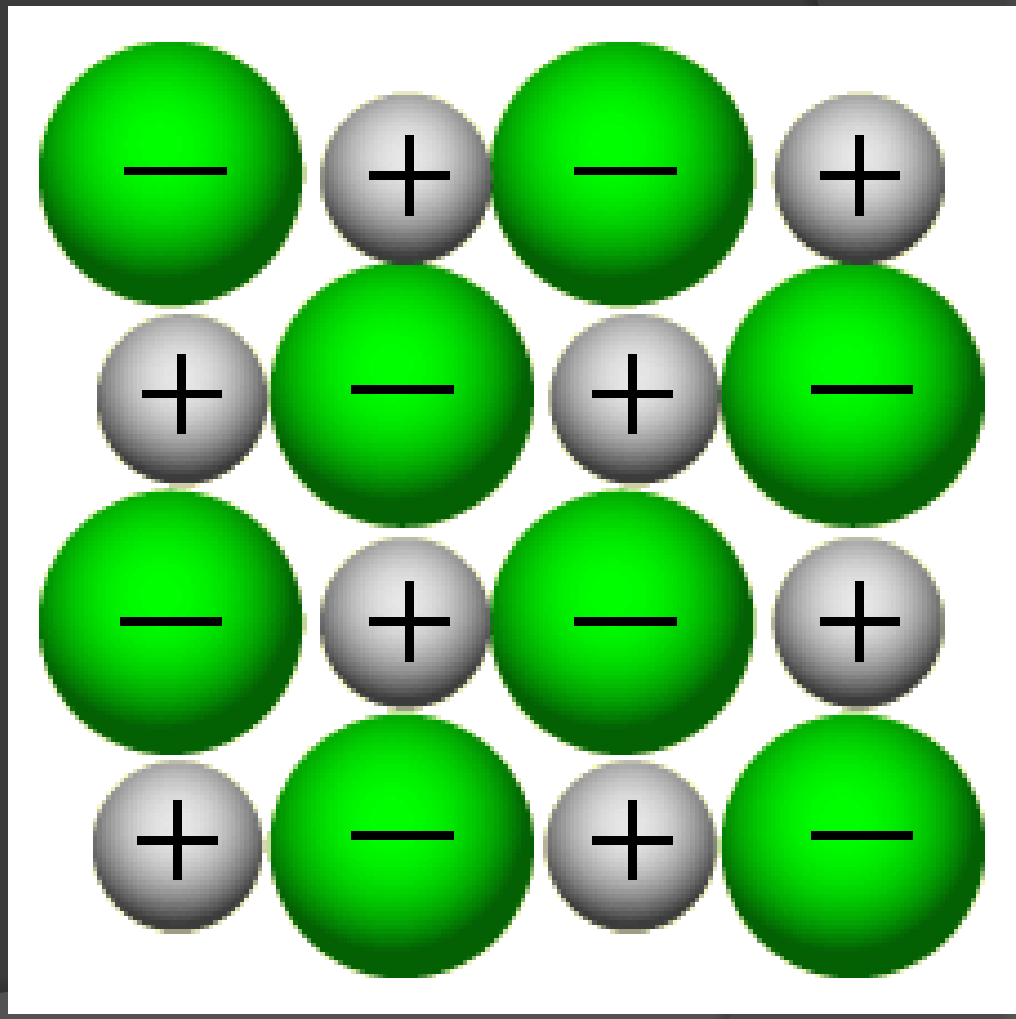
- NaCl
- MgCl
- CaF
- CO_2
- KI
- N_2
- H_2O



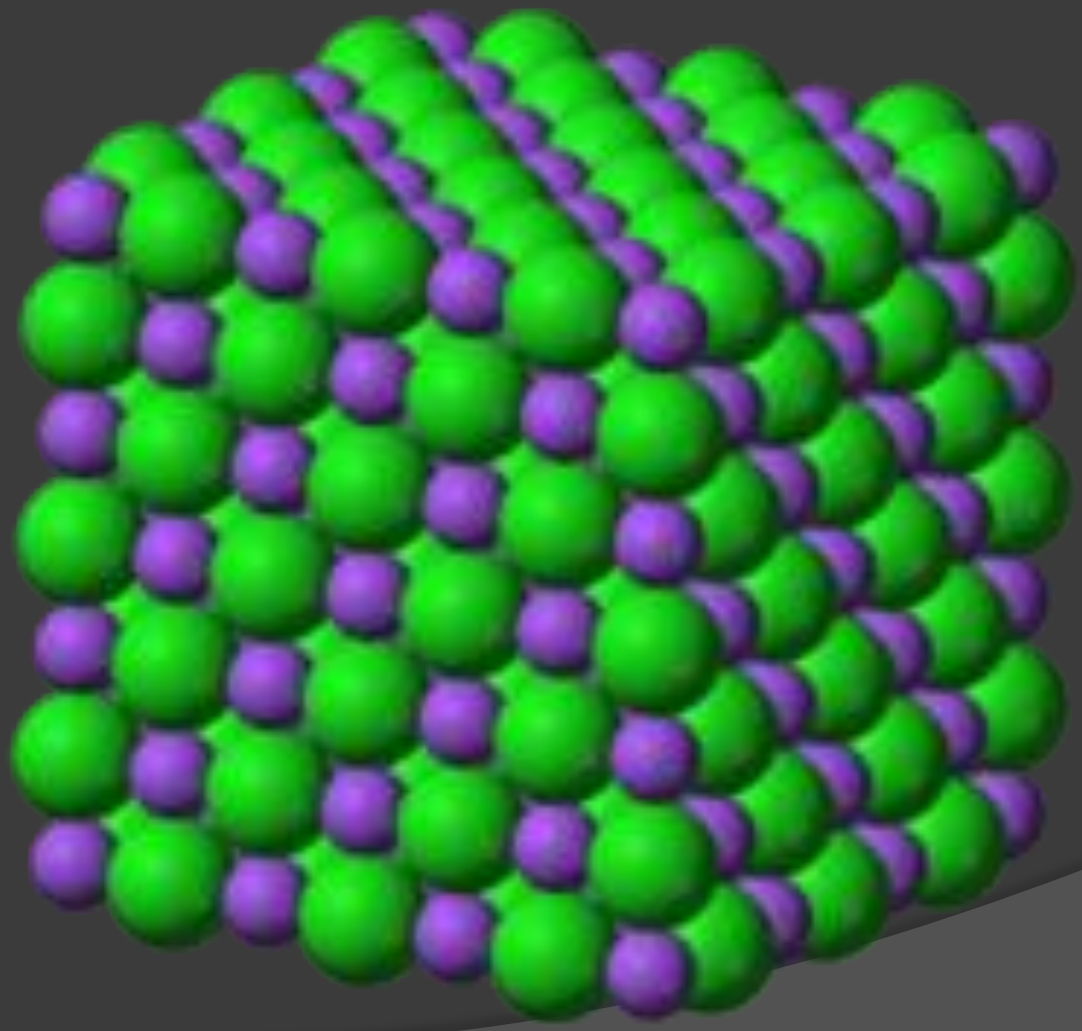
Hint: Ionic compounds are usually made up of a metal and non metal

Ionic Compounds

- Ionic compounds form lattice structures.
- “Lattice” is a math term for repeating points.



Lattice Structure



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