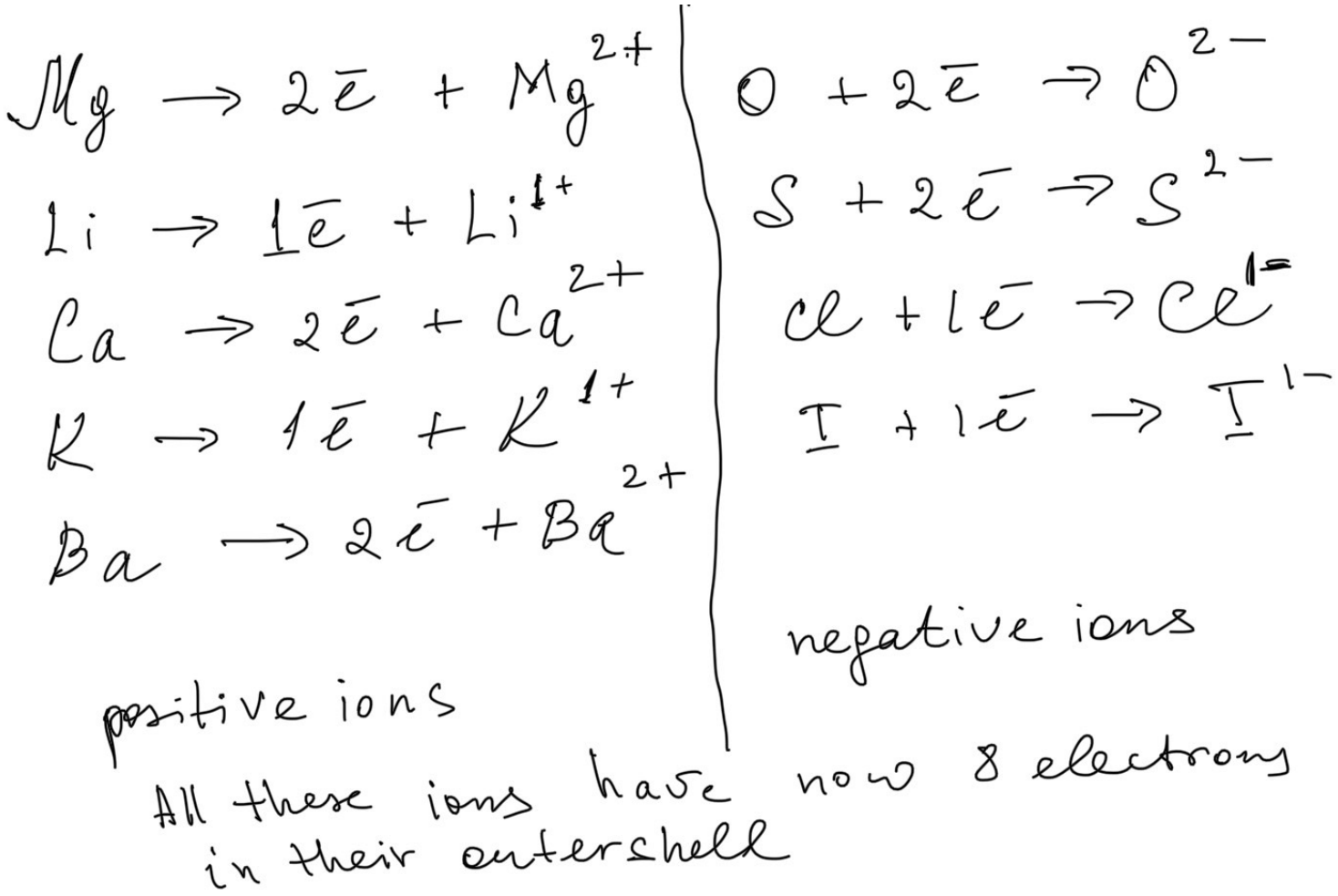
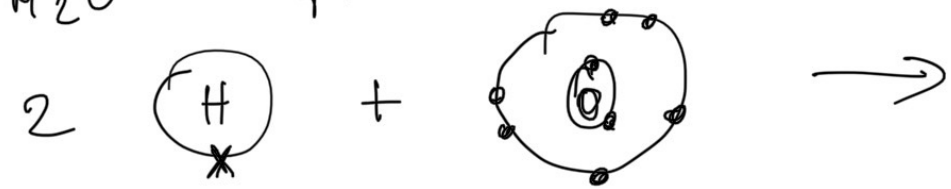
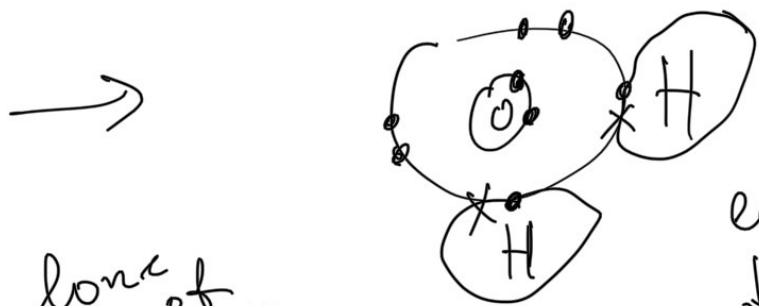
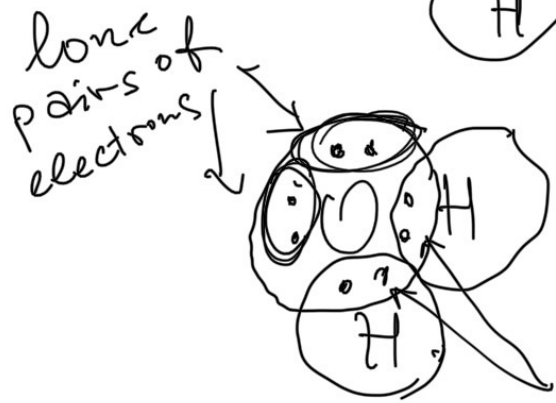


Metals readily lose one or more valence electrons becoming positive ions, nonmetals readily gain one or more electrons becoming negative ions.

H_2O ← molecular formular

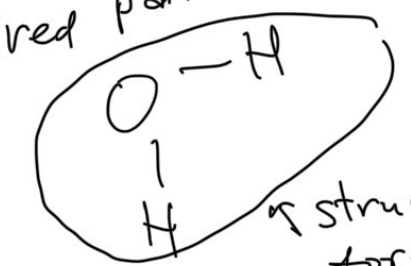






lonepair of electrons

shaired pair of electrons



structural formula

Ionic or covalent bonding?

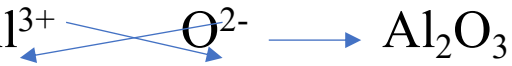
LiF, CF_4, CaO, NH_3, PCl_3, $CaCl_2$

This is how we can work out the formulas of ionic compounds.

We can figure out the number of electrons lost and gained by atoms, based on their electron configuration ($NaCl$, $CaCl_2$).

Or we should consider that the overall charge on the compound is zero, so the ion charges should cancel each other, Na^+Cl^- $Ca^{2+}(Cl^-)_2$

Or we can "switch" over the charges on the ions



This class uses the materials from the following books: Larry Gonick and Graig Criddle “The cartoon guide to chemistry”
Manyuilov and Rodionov “Chemistry for children and adults”
Steve Owen “Chemistry for the IB diploma”
Chris McMullen “Understand basic Chemistry concepts”