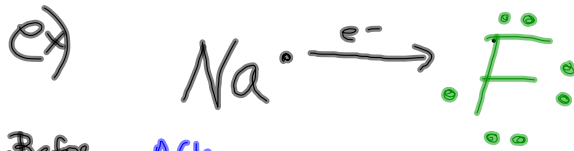


IONIC BONDS -
 occur when an atom gives
 an electron (or electrons)
 to another atom (or atoms)



Before
Bond
11P
11e

After
Bond
11P
10e

Na now has
 1 more proton
 than electrons
 this makes the
 Sodium atom an
 Na^+ ion!

Before
Bond
9P
9e

After
Bond
9P
10e

F now has
 1 more elect
 than proton
 this makes
 the F atom
 an F^- ion!

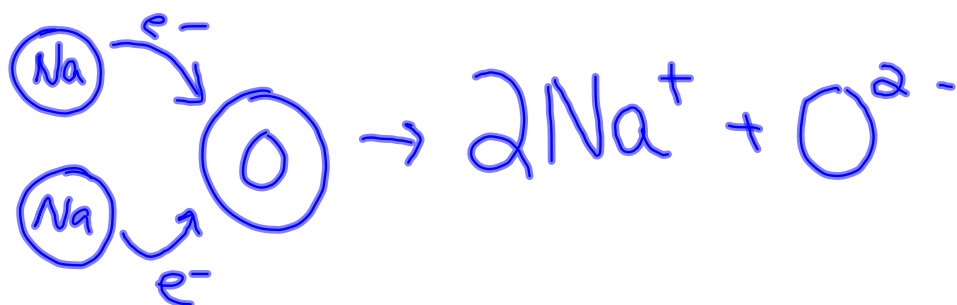
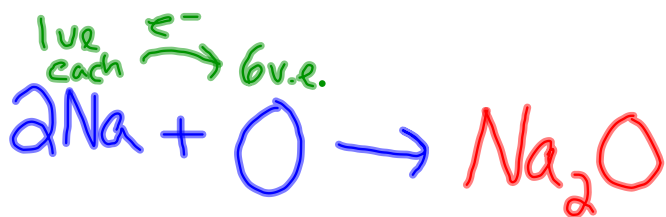
* IONS are charged atoms!
 They come from ionic bonds - where atoms
 either gain or lose an electron (or electrons)

$\text{Na} \cdot$ is an example of an
 atom that gives away 1 e.
 It becomes an Na^+ ion
 with a charge of $1+$.

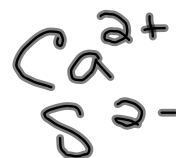
$\cdot \text{Ca} \cdot$ is an example of an
 atom that will give away
 2 e. It becomes a
 Ca^{2+} ion with a charge
 of $2+$.

$\cdot \text{Al} \cdot$ is an example of an
 atom that can give
 away 3 e. It becomes
 an Al^{3+} ion with a

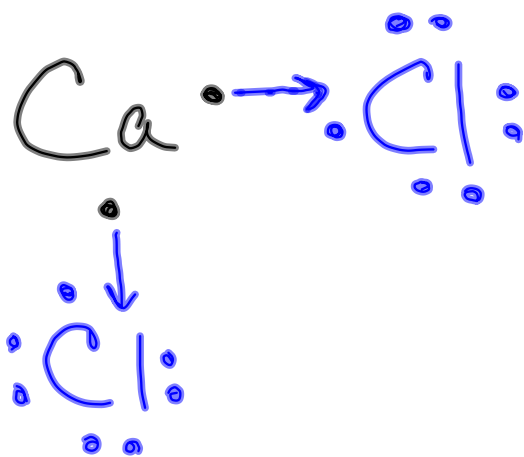
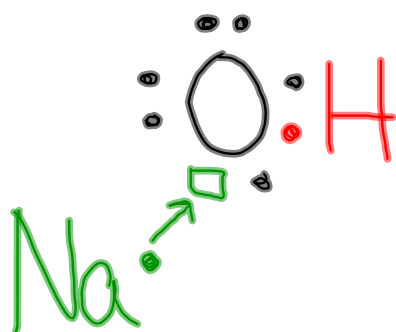
Who might Na want to bond with?



What about Ca?

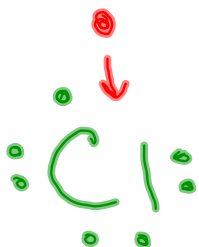
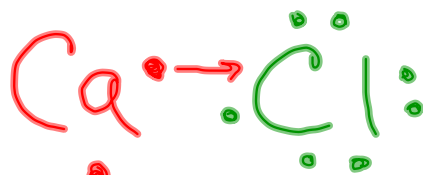
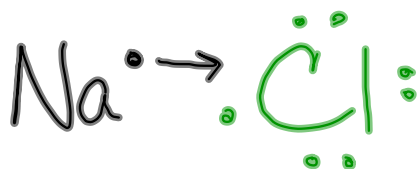


NaOH



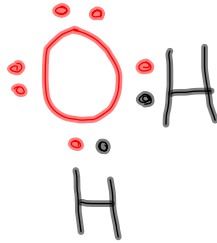
CaCl₂

Drawing Dot Diagrams for ionic compounds...

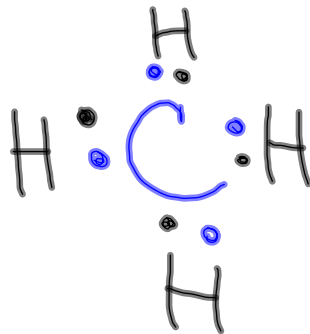


Covalent Bonds - occur
when atoms share electrons

ex) H_2O



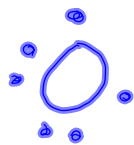
CH_4



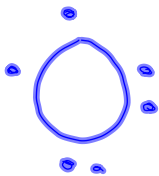
H_2



each of these bonds is a single
bond! the atoms are sharing
1 v.e. each.



6 ve



6 ve



in order to be happy, they
each want 8...
so they can share 2 v.e.
each. we call this a
double bond