A DOT STRUCTURE FOR A LARGER MOLECULE

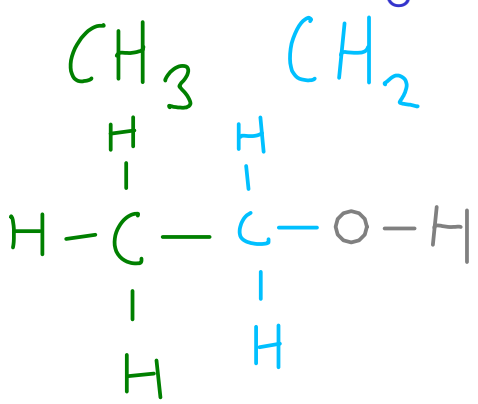
C : 4 x 2 = 8
H : 1 x 6 = 6
O : 6 x 1 = 6 | 20

CH_3CH_2OH ETHANOL!

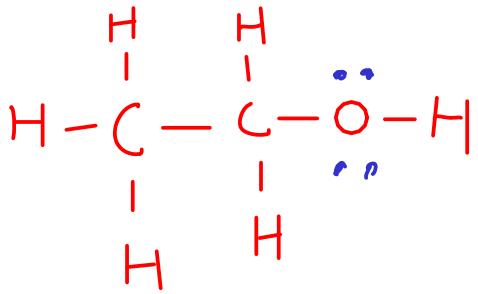
This formula gives us a hint to the structure of ethanol. Ethanol has THREE central atoms chained together.

1. Count valence electrons

2. Pick central atom and draw skeletal structure
   - central atom is usually the one that needs to gain the most electrons!
   - skeletal structure has all atoms connected to center with single bonds



3. Distribute remaining valence electrons around structure, outer atoms first. Follow octet rule until you run out of electrons.



4. Check octet rule - each atom should have a share in 8 electrons (H gets 2). if not, make double or triple bonds.

A DOT STRUCTURE FOR A POLYATOMIC ION

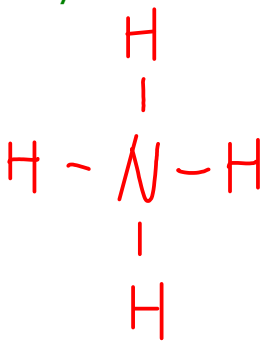
NH_4^+

1. Count valence electrons

N: 1 x 5
H: 4 x 1
9 valence e⁻
−1 e⁻ (+1 charge)
8 e⁻

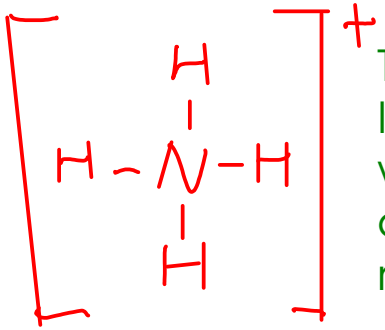
2. Pick central atom and draw skeletal structure
   - central atom is usually the one that needs to gain the most electrons!
   - skeletal structure has all atoms connected to center with single bonds

Electron count needs to be adjusted to account for the charge of the ion. After that, it;s drawn like any other molecule.



3. Distribute remaining valence electrons around structure, outer atoms first. Follow octet rule until you run out of electrons.

4. Check octet rule - each atom should have a share in 8 electrons (H gets 2). if not, make double or triple bonds.



To indicate that this is an ammonium ION (and not a neutral molecule), we put the structure in brackets and add the charge at the upper right..