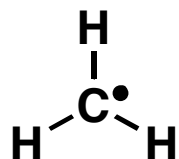
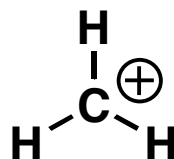


# Exceptions to the Octet Rule

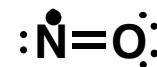
## Exception # 1 - not enough valence electrons



methyl radical  
(7 valence electrons)



methyl cation  
(6 valence electrons)

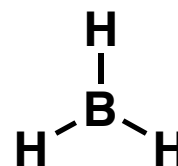


nitrogen oxide  
(11 valence electrons)

## Exception # 2 - early second row elements (Be, B)



beryllium hydride  
(Be shares 4 electrons)

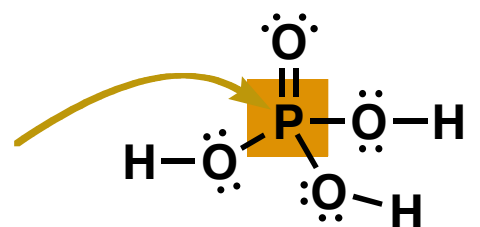
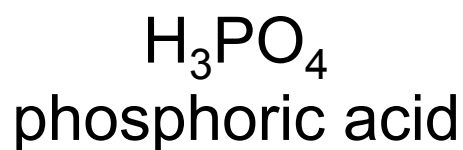


borane  
(B shares 6 electrons)



# Exceptions to the Octet Rule

Exception # 3 - beyond the second row, elements can be surrounded by more than eight electrons (**valence shell expansion**)



Under **NO** circumstances can the second row elements be surrounded by more than eight electrons:

**B, C, N, O, F**