**Lewis Structure Practice:** Starting with two carbons in a chain, add Hs as needed to saturate the compound (to make each carbon atom closed shell and uncharged, i.e. fully bonded with an octet of electrons around it). Then, to the original two carbons, try adding other atom(s). Also, draw in the required non-bonding electrons as needed to complete the Lewis structures. Want more practice? Write condensed formulae and line drawings for each!!!

<table>
<thead>
<tr>
<th>How many Hs were needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>C—C</td>
</tr>
</tbody>
</table>

Now add some halogens...

- add one F      C—C—F
- add two Fs     |
- add three Fs    |

Now add some oxygens...

- add one O       |
- add two Os      |
- add three Os    |

Now add some nitrogens...

- add one N       |
- add two Ns      |
- add three Ns    |

A little different: Complete the following structures with Hs and nbe, again making sure to keep all atoms uncharged.

How does the number of Hs (or other monovalent atoms) change with these variations? In these structures, saturation is not obtained. Fewer Hs are needed because pairs of atoms share more than one bond (fewer electrons needed = unsaturation). There are two sources of unsaturation: pi bonds, rings!