

### Session 3 Worksheet

#### Alkyl Functional groups

|           |  |            |  |
|-----------|--|------------|--|
| Methyl    |  | Ethyl      |  |
| Propyl    |  | Butyl      |  |
| Isopropyl |  | Phenyl     |  |
| Benzyl    |  | Tert-butyl |  |

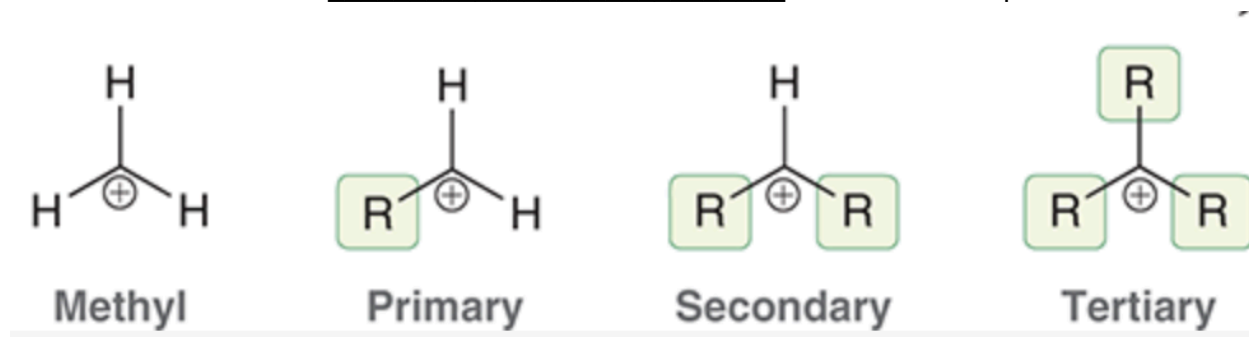
### Functional groups study sheet

|                                |  |  |                    |  |  |
|--------------------------------|--|--|--------------------|--|--|
| Alkyl Halide                   |  |  | Nitrile            |  |  |
| Alkane                         |  |  | Ketone             |  |  |
| Alkene                         |  |  | Aldehyde           |  |  |
| Alkyne                         |  |  | Carboxylic<br>Acid |  |  |
| Alcohol                        |  |  | Ether              |  |  |
| Aromatic/<br>Arene/<br>Benzene |  |  | Ester              |  |  |
| Amine                          |  |  | Amide              |  |  |

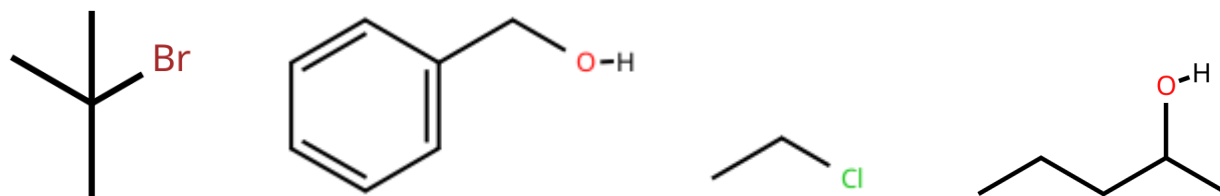
## Degree of Substitution

Primary, Secondary, and Tertiary are used to describe the \_\_\_\_\_ on a carbon of interest (the carbon we're looking at)

It looks at the number of \_\_\_\_\_ bonded to that specific carbon



Are the following carbons of interest in the compounds primary, secondary, or tertiary?



## \*Amines\*

Look at the number of \_\_\_\_\_ bonded to the actual \_\_\_\_\_



What is the geometry and bond angle of amines?

## Dipole Moment

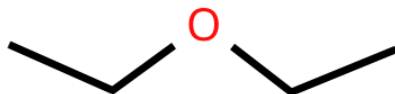
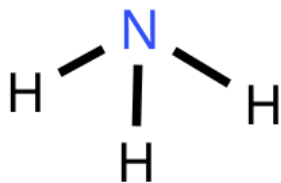
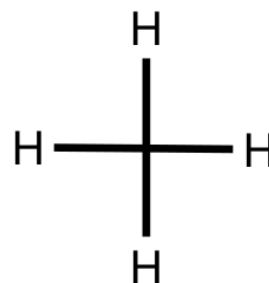
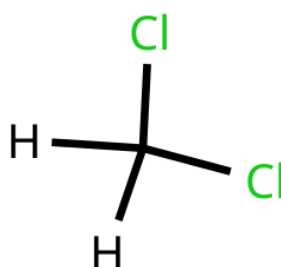
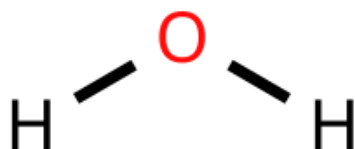
Polar Covalent Bonds:

Dipole Moment:

Expressed in \_\_\_\_\_

Net Dipole:

Label the partial charges and draw the dipole moment on the compounds below:



### Intermolecular Forces Practice

Determine which of the 2 compounds has the higher bp:

