## Naming Chemicals 2

Pre-lesson assignment – Textbook page 174-178

## You will need to learn to name these functional groups

| Structure                    | Name  | Prefix                                | Suffix   | Example                                 |
|------------------------------|---|---------------------------------------|----------|---|
| R                            | Alkene  |                                       | -ene     | Propene                                 |
| R                            | Alkyne  |                                       | -yne     | H C C H                                 |
|                              | Arene   | Phenyl-                               | -benzene | Phenylethane  Methylbenzene             |
| OH OH                        | Phenol  |                                       | -phenol  | 4-methylphenol OH                       |
| -X<br>-Cl<br>-F<br>-Br<br>-I | Haloalkane<br>Chloroalkane<br>Fluoroalkane<br>Bromoalkane<br>Iodoalkane | Chloro-<br>Fluoro-<br>Bromo-<br>Iodo- |          | CI-CH <sub>3</sub><br>Chloromethane     |
| -ОН                          | Alcohol   | Hydroxy-                              | -ol      | OH<br>Ethanol<br>OH<br>2-Hydroxypropene |
| -CHO<br>O<br>II<br>R C H     | Aldehyde  |                                       | -al      | Propanal                                |
| O<br>R C R                   | Ketone  |                                       | -one     | O<br>Propanone                          |

| R-O-<br>CH₃-O-                                    | Ether           | (alkyl)-oxy-<br>Methoxy |               | —O<br>Methoxyethane        |
|---|-----------------|-------------------------|---------------|----------------------------|
| -cooh<br>O<br>II<br>C<br>OH                       | Carboxylic acid | Carboxy-                | -oic acid     | O<br>OH<br>Ethanoic acid   |
| -COO-R<br>-COO-C <sub>2</sub> H <sub>5</sub><br>O | Ester           | (Alkyl)<br>Ethyl        | -oate         | O<br>O<br>Ethyl propanoate |
| O<br>R C CI                                       | Acid chloride   |                         | -oyl chloride | CI<br>Ethanoyl chloride    |

| $O$ $C$ $NH_2$ $O$ $R$ $N$ $R$ $NR_2$        | Acid amide     |        | -amide         | NH <sub>2</sub><br>Ethanamide                              |
|--|----------------|--------|----------------|--|
| $R \longrightarrow R$                        | Acid anhydride |        | -oic anhydride | Ethanoic anhydride   |
| -CN  | Nitrile        |        | -Nitrile       | N=   |
| -NH <sub>2</sub><br>-NHR<br>-NR <sub>2</sub> | Amine          | Amino- | -amine         | NH <sub>2</sub> Propylamine NH <sub>2</sub> 2-aminopropane |

## Make notes on naming chemicals with functional groups

Use the following questions as guidance

- 1. Briefly explain how alkanes can be named.
- 2. Briefly explain how to name a chemical with functional groups.