## Chemistry 3.5 Advanced Organic Chemistry

Haloalkanes and amines

## Degree of Haloalkane

- The classification of haloalkane is the same as alcohol
- 3° haloalkane- halogen is bonded to a carbon bonded to three other carbons
- 2º haloalkane- halogen is bonded to a carbon bonded to two other carbons
- 1º haloalkane- halogen is bonded to a carbon bonded to one other carbon

$$H_3C$$
  $CH_3$   $CH_3$   $H$   $H_3C$   $CH_3$   $H$   $H$   $H$   $CH_3$   $H$   $H$   $CH_3$   $CH_3$   $CH_3$   $CH_3$   $CH_4$   $CH_5$   $CH_5$ 

## Substitution of haloalkanes

- Last year....
  - All haloalkanes react with OH<sub>(aq)</sub> (or KOH<sub>(aq)</sub>) to form alcohol

$$OH^- + R \longrightarrow X^- + R \longrightarrow OH$$

Haloalkanes react with NH<sub>3(alc)</sub> to form amines

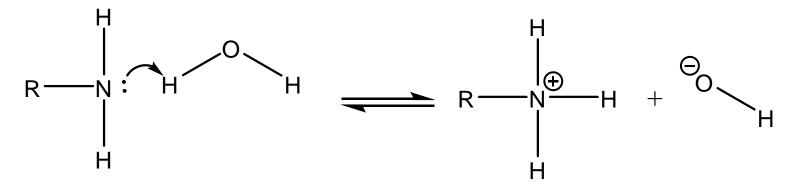
$$NH_3 + R \longrightarrow HX + R \longrightarrow NH_2$$

- This year Level 3
  - Tertiary haloalkanes react with water to form alcohol

$$H_2O + R \longrightarrow HX + R \longrightarrow OH$$

## **Amine**

- Amine is a base
- It reacts with water forming a basic solution



It reacts with an acid forming a salt

