Nucleophilic Substitution

Pre-lesson assignment – Textbook page 225

Define the following terms

- Nucleophile
- Substitution reaction

Now watch the tutorial on Nucleophilic Substitution

Make notes on Nucleophilic substitution

Use the following questions as guidance.

1. Draw, **using displayed formula,** the molecule chloroethane.
2. Showing relevant dipoles and lone pairs, and using curly arrows to show the movement of lone pairs of electrons, show how an OH^- ion will react with chloroethene in a nucleophilic substitution reaction. Explain each step of the reaction as you go.
3. Show the mechanism for the reaction below:
   $CH_3CH_2CH_2Cl + HCN \rightarrow CH_3CH_2CH_2CN + HCl$
   Bear in mind that in water $HCN \rightleftharpoons H^+ + CN^-$