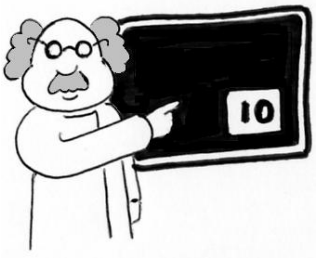
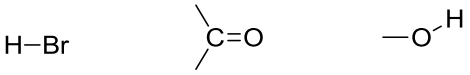


STARTER FOR 10...

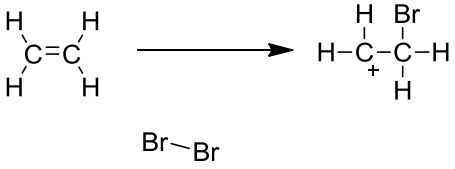
5.1.5 Mechanisms and curly arrrows

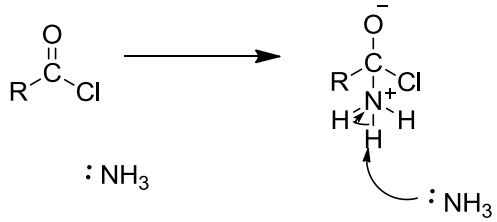
Mechanisms aren't difficult to remember if you understand the principles behind them. Just learning the arrows doesn't help, you need to develop chemical common sense and decide what is sensible based on electron flow. To do this you need to know areas of high electron density and low electron density.

1. Assign δ+ and δ- to the following bonds. (6 marks)



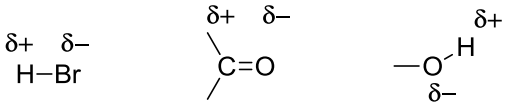
2. Draw curly arrows to show how electrons move in the following transformations (you don't need to have learnt these mechanisms, look at what's happening and use your intuition!) (4 marks)





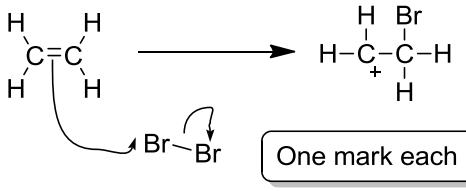
5.1.5

1.



Two marks each

2.



One mark each arrow

One mark each arrow

5.1.6

Electrophiles (electron deficient molecules and positive ions)	**Nucleophiles** (molecules with lone pairs and negative ions)
H^+	CH_3NH_2
BF_3	NH_3
H_3O^+	CN^-
$AlCl_3$	H_2O
NO_2^+	OH^-

5.2.1

1. CH_4 and LPG in *Gases* (2)

Octane in *petrol* (1)

C_{20}-C_{30} in *lubricating oil* (1)

Fuel for ships in *residues* (1)

2. T C T C C (5)

5.2.2