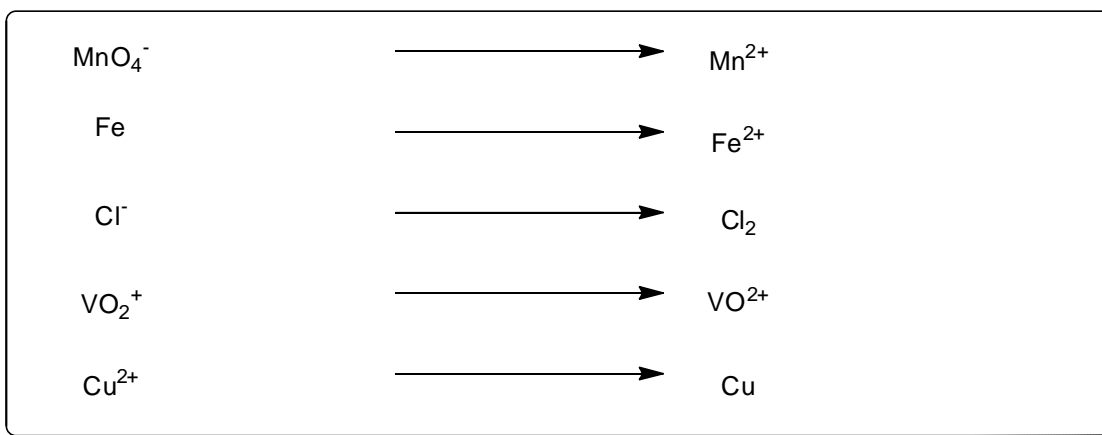


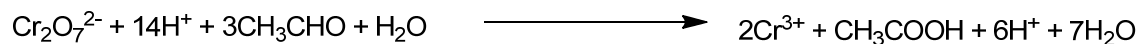


# STARTER FOR 10...

## 9.1.3 Half equations to overall equations



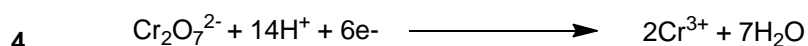
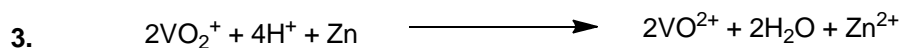
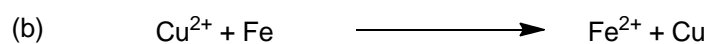
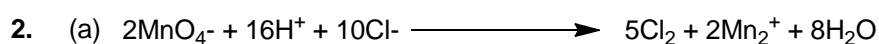
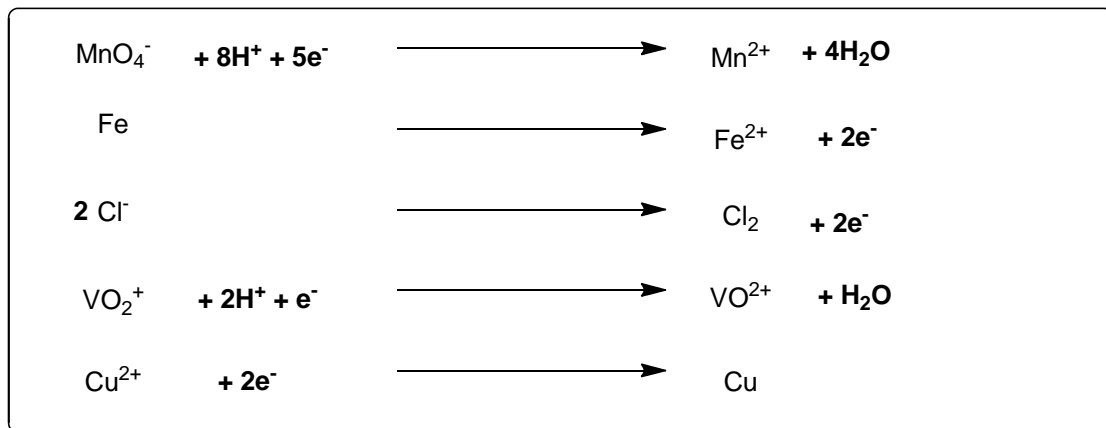
1. Balance the half equations above (5 marks)
2. Using the equations you have balanced above, construct overall equations to show -
  - (a) The reduction of manganate(VII) by chloride ions (1 mark)
  - (b) The reduction of copper(II) to copper by iron (1 mark)
3. Construct an overall equation to show how the  $\text{VO}_2^+$  ion is reduced by zinc metal (2 marks)



4. The reaction above shows the oxidation of an aldehyde to a carboxylic acid using the dichromate ion. From this equation deduce the half equation for the dichromate reduction. (1 mark)

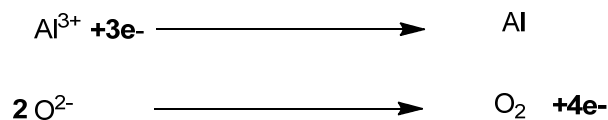
### 9.1.3

1.



### 9.2.1

1.



2. Electrodes are made of carbon and are oxidised to  $\text{CO}_2$   
Uses electricity which is generated from the burning of fossil fuels
3. So the ions are free to move
4. It is more reactive than carbon
5. Dissolved in molten cryolite
- 6.

