

Migration of Ions

Build an 18 V power supply

1. Connect two 9V batteries in series using the connectors in your kit.
2. Measure the voltage across the unconnected wires and confirm that you have a power supply of ~18V.
3. Connect the positive side to the red crocodile clip and the negative side to the black clip. Make sure you do not short these terminals as it will rapidly discharge the batteries.

Prepare your setup

1. Cut a piece of the filter a little smaller than the microscope slide.



2. Place it squarely on the slide and moisten it with tap water. The moisture should hold it in place. Do not wet it so much as to have water flowing all over the slide.



3. Place a small crystal of potassium manganate(VII) in the centre of the paper.
4. Attach a crocodile clip to each end of the assembly.



5. Watch this for about 15 minutes. Record pictures at about 2 minute intervals.
6. If nothing happens place a very small drop of water at the point of contact between the clips and the paper. You can also moisten the crystal with a little drop.

Points to address

1. Potassium manganate(VII) is made up of two ions, potassium and manganate(VII). Which one of these is likely to be the coloured one? You can draw on some observation in the previous lab.
2. From the direction of movement, what does this tell you about the charge on the potassium and the manganate ions? Justify your answer