## Materials

6 Syringes
1 Heating plate
6 distinctly labeled 50ml Beakers
1 Electric Balance
6 Stirring Rods
Distilled Water
6 distinctly labeled 100ml Beaker
Controlling the variables

The mass of Potassium chloride and the volume of distilled water introduced into each beaker should be recorded in order to allow the experimenter to determine the molar concentration of Potassium chloride in water. Since the same amount of water and Potassium chloride are used in each beaker throughout the whole experiment, these variables are the least likely to be the sources of errors.

All 6 solutions will be supersaturated in Potassium chloride. If the solutions were not supersaturated, an increase in solubility will not be detectable.

In order for all the solutions be subjected to the same experimental conditions, the same amount of time dedicated for stirring should be the same in all 6 100ml beakers.

The use of different syringes for the extraction of the Potassium chloride and distilled water solution from each beaker avoids the possibility of contamination in the case where the same syringe was used in all 6 beakers.

The needle of the syringe should be placed at the midpoint between the surface of the solution and the bottom of the beaker upon extraction. This is because of it were placed at the surface of the solution some air particles might enter the syringe, and if it were placed at the bottom of the beaker some undissolved particles might be extracted, thereby leading to an increase in the actual concentration of the dissolved salt.

The weight of each 50ml beaker (used for weighing the mass of dissolved Potassium chloride after the evaporation of water) should be recorded. If the experimenter were to weigh the mass of one beaker and take it as a default mass, the latter may be a source of error.

In order to minimize errors and to "place" the solutions in the same environment, the same volume should be extracted from each solution using the syringes.

After heating the extracted solution in the 50ml beaker for weighing purposes, some of the water might condense back into the liquid state (in the form droplets), thereby leading to an increase in the calculated weight of Potassium chloride. Therefore after evaporation has occurred and while the 50ml beaker is still hot, the beaker should be immediately weighed.

## Procedure