
EXPLORING AN ENDOTHERMIC REACTION

Endothermic reactions consume heat energy. When substances like salts dissolve in water they form ions (charged particles NH_4^+ and NO_3^-). These form as the bonds break and the molecule dissociates. The breaking of these bonds of ammonium nitrate requires energy. In this case the energy is absorbed from the water.

Materials

CBL2 with temperature probe	100cm ³ beaker
TI-83 plus calculator	100cm ³ measuring cylinder
Electronic balance	spatula
ammonium nitrate NH_4NO_3	dish
distilled water	

Using the temperature probe explore the effect of dissolving the salt ammonium nitrate on the temperature of the solution.

You need to devise the method

First explore the type of reaction and the time it takes.

Then you need design a controlled investigation of the reaction by:

- fixing the duration of your measurements,
- fixing the frequency of your measurements
- determining the quantities of water and salt.

You must write a method which states exactly and unambiguously how you did it. So that it could be repeated by another scientist in another laboratory.

Keep a clear record of **everything you** do so that you can put it into an appropriate report later on.

Present your results clearly

Discuss your results:

Observations, Interpretations, Conclusions, Criticisms and Suggested improvements.

Research

Check out chemical cold packs used in athletics.