The National Orthodox School Shmaisani

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Subject: Chemistry

Name: **Worksheet**: **Temperature Changes in Dissolving**

Date: **Grade-Section**: 7CS

Planning:

What variable will you change in this investigation? (Independent variable)

Type of solute (substance dissolved in water)

What variable will you measure in this investigation? (Dependent variable)

Change in temperature of water

How will you make your investigation a fair test?

1. ……**Use the same volume of water**……
2. …**Use the same mass of solute……**
3. …**Same stirring time and speed (rate)**……

Materials:

Procedure:

1. Label two beakers with the names of the salts you will investigate.

2. Weigh …**2**…… g of ammonium chloride and place it in its labeled beaker.

3. Measure ……**20**….. mL of water and place a thermometer in it. **Record this initial temperature** in the chart on the activity sheet.

4. Pour the ammonium chloride into the water and swirl the cup. Watch the thermometer.

5. When the temperature stops changing, **record the final temperature**.

6. Repeat steps 2–5 for the other salt.

Results

Substance	Initial temperature ºC	Final Temperature ºC	Change in temperature ºC
ammonium chloride	***Ex:23.5***	***Ex:16.8***	**Final temp- Initial temp.** **The reading will be a negative number (drop in the temperature) endothermic change.**
Copper chloride	***Ex:22.0***	***Ex:24.6***	**Final temp- Initial temp.** **The reading will be a positive number (rise in the temperature) exothermic change.**

Conclusion

- ✓ In an endothermic change, the temp. of the surrounding (water) will fall. It transferred into the solute particles to help them dissolve.
- ✓ 'In an exothermic change, the temp. of the surrounding (water) will increase. It transferred from the solute particles to the water.
- ✓ Dissolving can be either exothermic or endothermic.