

Cold Pack Science

This experiment will help you learn about the type of endothermic reaction that occurs in creating cold packs when adding different chemicals to water.

MATERIALS NEEDED:

- *Tap water
- *Measuring cup
- *Cup
- *Baking Soda (Sodium bicarbonate)
- *Sour Salt (Citric acid)
- *Morton Lite (Potassium chloride)
- *Washing Soda (Sodium carbonate)
- *Deicer (Calcium chloride)
- *Journal to record your results



EXPERIMENT PROCESS:

- *Pour $\frac{1}{2}$ cup of tap water into a cup.
- *Stir the cup with a thermometer and record the temperature.
- *Add four teaspoons of sodium bicarbonate to the water and stir with the thermometer. Record the resulting temperature.
- *Subtract the temperature from Step 2 from the temperature in Step 3. This will give you the change in temperature.
- *Record your data in a chart with 3 columns:
Chemical Added, Original Temperature, Final Temperature, Temperature Change
- *Wash the cup and thermometer and dry them well.
- *Repeat this process with the citric acid, potassium chloride, sodium carbonate, and calcium chloride. Record all data.
- *Analyze your data. Which of the substances would create the best cold pack?