

Investigating exothermic and endothermic reactions**Method****Test 1**

1. Measure 25 ml of hydrochloric acid into a 400 ml beaker.
2. Place a thermometer into the beaker and record the temperature.
3. Add 5 g of sodium hydrogen carbonate to the beaker.
4. After 30 seconds, record the temperature again.

Test 2

1. Measure 25 ml of hydrochloric acid into a 400 ml beaker.
2. Place a thermometer in the beaker and record the temperature.
3. Add 25 ml of sodium hydroxide solution to the beaker.
4. After 30 seconds, record the temperature again.

Results

	Initial Temp (°C)	Final Temp (°C)	Temp Change (°C)
Test 1			
Test 2			

Questions.

1. Which of the reactions was exothermic? Explain how you know.

2. Which of the reactions was endothermic? Explain how you know.

3. If you did not observe a temperature change, is there anyway that you could tell that a chemical change was taking place?

Stretch Yourself

Do you think that it is possible to observe a temperature change during a physical change such as dissolving?