

OBJECTIVE:

We can classify the reactions depending on whether they transfer energy to the surrounding area (EXOTHERMIC) or if they take the energy in from the surroundings (ENDOTHERMIC).

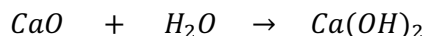
MATERIALS:

Scale, Erlenmeyer flask (2), graduated cylinder, spoon, thermometer, stirring rod.

Paper. Calcium oxide, CaO, solid. Barium Hydroxide (corrosive-Ba(OH)₂), Ammonium chloride (harmful, NH₄Cl)

1st Experiment, Exothermic reaction.

The reactants are calcium oxide (CaO, óxido de calcio) and water.

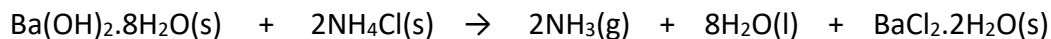


1. Balance the equation.
2. **Calculate** the mass in 0,2 moles of CaO, **m**=_____ -
3. Pour 50 mL of water into the Erlenmeyer flask.
4. Put a paper on the scale and use the tare button to set the weight to 0.
5. Weight the mass you have calculated in 2.
6. Introduce the calcium oxide into the Erlenmeyer flask and the thermometer. Stir slightly.
7. Annotate the temperature in the table:

Time	30 "	1 min	2 min	3 min	4 min	5 min
Temperature						

2nd Experiment, Endothermic reaction.

We are going to mix both solids into the flask. The chemical equation will be as follows:



Mass: 315 g 107 g 34g 144g 244 g

1. Use the erlenmeyer to weigh 6.3 g of Ba(OH)₂
2. **Calculate** the mass you should weigh of NH₄Cl, **m**=_____
3. Weigh that mass with the scale, using a paper.
4. Add the NH₄Cl to the erlenmeyer flask, introduce the stirring rod and stir.
5. Add the thermometer and annotate the temperature:

Time	30 "	1 min	2 min	3 min	4 min	5 min
Temperature						