**Calorimetry**

Calorimetry is the science of \_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_ of chemical reactions or physical changes.

* + Calorimetry is also known as a \_\_\_\_\_\_\_\_\_\_\_ procedure that measures the amount of \_\_\_\_\_ transferred to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by a reaction.
    - Calorimetry can be calculated when heat of \_\_\_\_\_\_\_\_\_\_\_\_\_ is given and the mass of the \_\_\_\_\_\_\_\_\_\_\_\_\_ is known or,
    - During a calorimetry procedure, the \_\_\_\_\_ released during a chemical or physical change is \_\_\_\_\_\_\_\_\_\_\_\_ to another substance, such as \_\_\_\_\_\_\_, which undergoes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change.

**Calorimetry Calculations**

* Example 1: Propane is a commonly used fuel. 1 mol of C3H8 releases 2,220 kJ of heat during combustion. The molar mass of C3H8 is 44.1 g/mol. How much heat is released if a firework contains 67.8 g of C3H8?
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_change, fuel \_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_ volume data from a calorimetry procedure can be used to determine how much \_\_\_\_\_\_\_ is transferred during a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ reaction.
  + The amount of \_\_\_\_\_\_\_\_ transferred from a substance during \_\_\_\_\_\_\_\_\_\_\_\_\_\_ depends on the identity and mass of the substance.
  + The equation can be seen as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. One will be \_\_\_\_\_\_\_\_\_ energy, the other will be \_\_\_\_\_\_\_\_\_\_\_\_ energy.
* Example 2: 175 grams of hot aluminum (100.°C) is dropped into an insulated cup that contains 40.0 mL of ice cold water (0.0°C). Follow the example above to determine the final temperature, x.