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Crash Course Chemistry #19: Calorimetry

Name: _____ Date: _____

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1. Hydrochloric acid readily donates its hydrogen ion, making it a strong _____.
2. Sodium hydroxide is an example of a _____, which accepts protons.
3. When an acid and a base combine, they undergo a _____ reaction.
4. A neutralization reaction between an acid and a base produces _____ and water.
5. The release of heat in a reaction makes it an _____ process.
6. The total heat change in a chemical reaction is known as _____.
7. _____'s Law states that the enthalpy change of a reaction depends only on the initial and final states.
8. Standard enthalpy of _____ is the heat change when one mole of a compound is formed from its elements.
9. The science of measuring heat change in a reaction is called _____.
10. A _____ is an insulated container used to measure heat changes in chemical reactions.
11. The amount of heat required to raise the temperature of one gram of a substance by one degree Celsius is called _____.
12. In calorimetry, the change in heat can be calculated using the formula: heat = specific heat × mass × _____.
13. During calorimetry, the thermometer measures the _____ change, not the heat directly.
14. Water has a high specific heat capacity due to the breaking and forming of _____ bonds.
15. One source of error in calorimetry is heat escaping due to poor _____.

Crash Course Chemistry #19: Calorimetry KEY

1. Hydrochloric acid readily donates its hydrogen ion, making it a strong **acid**.
2. Sodium hydroxide is an example of a **base**, which accepts protons.
3. When an acid and a base combine, they undergo a **neutralization** reaction.
4. A neutralization reaction between an acid and a base produces **salt** and water.
5. The release of heat in a reaction makes it an **exothermic** process.
6. The total heat change in a chemical reaction is known as **enthalpy**.
7. **Hess's Law** states that the enthalpy change of a reaction depends only on the initial and final states.
8. Standard enthalpy of **formation** is the heat change when one mole of a compound is formed from its elements.
9. The science of measuring heat change in a reaction is called **calorimetry**.
10. A **calorimeter** is an insulated container used to measure heat changes in chemical reactions.
11. The amount of heat required to raise the temperature of one gram of a substance by one degree Celsius is called **specific heat capacity**.
12. In calorimetry, the change in heat can be calculated using the formula: heat = specific heat × mass × **temperature change**.
13. During calorimetry, the thermometer measures the **temperature** change, not the heat directly.
14. Water has a high specific heat capacity due to the breaking and forming of **hydrogen** bonds.
15. One source of error in calorimetry is heat escaping due to poor **insulation**.

15 Questions

Answer Key Included

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