Thermochemistry

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| **Across**  **6.** the science or act of measuring changes in state variables of a body for the purpose of deriving the heat transfer associated with changes of its state due, for example, to chemical reactions, physical changes, or phase transitions under specified constraints  **8.** the heat required to raise the temperature of the unit mass of a given substance by a given amount  **10.** ability to do work  **16.** the amount of heat necessary to boil 1 mole of a substance at it's boiling point  **17.** stored energy  **18.** the enthalpy change that occurs in a system when one mole of matter is transformed by a chemical reaction under standard conditions  **19.** the degree or intensity of heat present in a substance or object  **20.**  the absorption of heat | **Down**  **1.** the amount of heat necessary to melt 1 mole of a substance at it's melting point  **2.** is the energy released by a combustion reaction between hydrocarbons, oxygen and a heat source  **3.** a thermodynamic quantity equivalent to the total heat content of a system  **4.** Energy can neither be created nor destroyed  **5.** the energy stored in the chemical bonds of a substance  **7.** energy due to motion  **9.** the study of energy transfer in the form of heat  **11.** an apparatus for measuring the amount of heat involved in a chemical reaction or other process  **12.** the release of heat  **13.** the quality of being hot; high temperature  **14.** he energy needed to raise the temperature of 1 gram of water through 1 °C  **15.** the SI unit of work or energy, equal to the work done by a force of one newton when its point of application moves one meter in the direction of action of the force, equivalent to one 3600th of a watt-hour. |