|  |  |  |
| --- | --- | --- |
| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_ | Period: \_\_\_\_\_\_\_ |

Thermodynamics

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | 1L |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2T |  | 3C |  |
|  |  |  A |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4S |  P |  E |  C |  I |  F |  I |  C |  H |  E |  A |  T |
|  |  |  W |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  E |  |  L |  |
| 5E |  X |  O |  T |  H |  E |  R |  M |  I |  C |  |  |  |  |  |  |  |  |  | 6A |  |  |  |  |  |  |  R |  |  O |  |
|  |  |  F |  |  |  |  |  |  |  | 7C |  |  |  |  |  |  |  |  |  B |  |  |  |  |  |  |  M |  |  R |  |
|  |  |  C |  |  | 8E |  | 9C |  |  |  A |  |  |  |  |  |  |  |  |  S |  | 10F |  |  |  |  |  O |  |  I |  |
|  |  |  O |  |  |  N |  |  O |  |  |  L |  |  |  |  | 11R |  |  |  |  O |  |  R |  |  |  |  |  D |  |  M |  |
|  |  |  N |  |  |  D |  |  N |  |  |  O |  |  | 12H |  E |  A |  T |  |  |  L |  | 13E |  N |  E |  R |  G |  Y |  |  E |  |
|  |  |  S |  |  |  O |  |  D |  |  |  R |  |  |  |  |  D |  | 14J |  |  U |  |  E |  |  |  |  |  N |  |  T |  |
|  |  |  E |  |  |  T |  |  U |  |  |  I |  |  |  |  |  I |  |  O |  |  T |  |  Z |  |  |  |  |  A |  |  E |  |
|  |  |  R |  |  |  H |  |  C |  | 15T |  E |  M |  P |  E |  R |  A |  T |  U |  R |  E |  |  I |  |  | 16B |  |  M |  |  R |  |
|  |  |  V |  |  |  E |  |  T |  |  |  |  |  |  |  |  T |  |  L |  |  Z |  |  N |  |  |  O |  |  I |  |  |  |
|  |  |  A |  |  |  R |  |  I |  |  | 17K |  I |  N |  E |  T |  I |  C |  E |  N |  E |  R |  G |  Y |  |  I |  |  C |  |  |  |
|  |  |  T |  |  |  M |  |  O |  |  |  |  |  |  |  |  O |  |  S |  |  R |  |  P |  |  |  L |  |  S |  |  |  |
| 18F |  R |  I |  C |  T |  I |  O |  N |  A |  L |  H |  E |  A |  T |  I |  N |  G |  |  |  O |  |  O |  |  |  I |  |  |  |  |  |
|  |  |  O |  |  |  C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  I |  |  |  N |  |  |  |  |  |
|  |  |  N |  |  |  |  |  |  |  |  | 19P |  O |  T |  E |  N |  T |  I |  A |  L |  E |  N |  E |  R |  G |  Y |  |  |  |  |
|  |  |  O |  |  |  |  |  |  |  | 20C |  |  |  |  |  |  |  |  |  |  |  T |  |  |  P |  |  |  |  |  |
|  |  |  F |  |  |  |  | 21I |  N |  T |  E |  R |  N |  A |  L |  E |  N |  E |  R |  G |  Y |  |  |  |  O |  |  |  |  |  |
|  |  |  E |  |  |  |  |  |  |  |  L |  |  |  |  |  |  |  |  |  |  |  |  |  |  I |  |  |  |  |  |
|  | 22E |  N |  T |  H |  A |  L |  P |  Y |  |  S |  |  |  |  | 23C |  O |  N |  V |  E |  C |  T |  I |  O |  N |  |  |  |  |  |
|  |  |  E |  |  |  |  |  |  |  |  I |  |  |  |  |  |  |  |  |  |  |  |  |  |  T |  |  |  |  |  |
|  |  |  R |  |  |  |  |  |  |  |  U |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  G |  |  |  |  |  |  |  |  S |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **Across****4.** the quantity of energy needed to raise the temperature of 1 kg of a substance by 1℃ at constant pressure**5.** energy flows out of a system**12.** a flow of energy due to a temperature difference**13.** the ability to do work or produce heat**15.** a measure of the random motions of the components of a substance**17.** energy due to the motion of the object**18.** kinetic energy transferred to a surface as heat**19.** energy due to position or composition**21.** sum of the kinetic and potential energies of all "particles" in the system**22.** to measure how much energy is produced or absorbed by a given reaction**23.** heat that is transferred by movement of a fluid | **Down****1.** energy can be converted from one form to another but can be neither created nor destroyed**2.** the study of heat energy**3.** used to determine the heat associated with a chemical reaction**6.** the lowest possible temperature on the Kelvin scale where all molecules would stop**7.** amount of energy (heat) required to raise the temperature of one gram of water by one degree Celsius**8.** energy flows into a system**9.** heat transferred method between objects in contact as a result of temperature difference**10.** 1 atm pressure, water freezes at 0 degrees Celsius**11.** a transfer of heat energy through space by means of electromagnetic waves**14.** 4.184 \_\_\_\_\_\_\_\_\_\_ = 1 calorie**16.** 1 atm pressure, liquid water always changes to gaseous water at 100 degrees Celsius**20.** a unit of measurement that was once called Centigrade because there are 100 degrees between the freezing and boiling points of water in this scale |