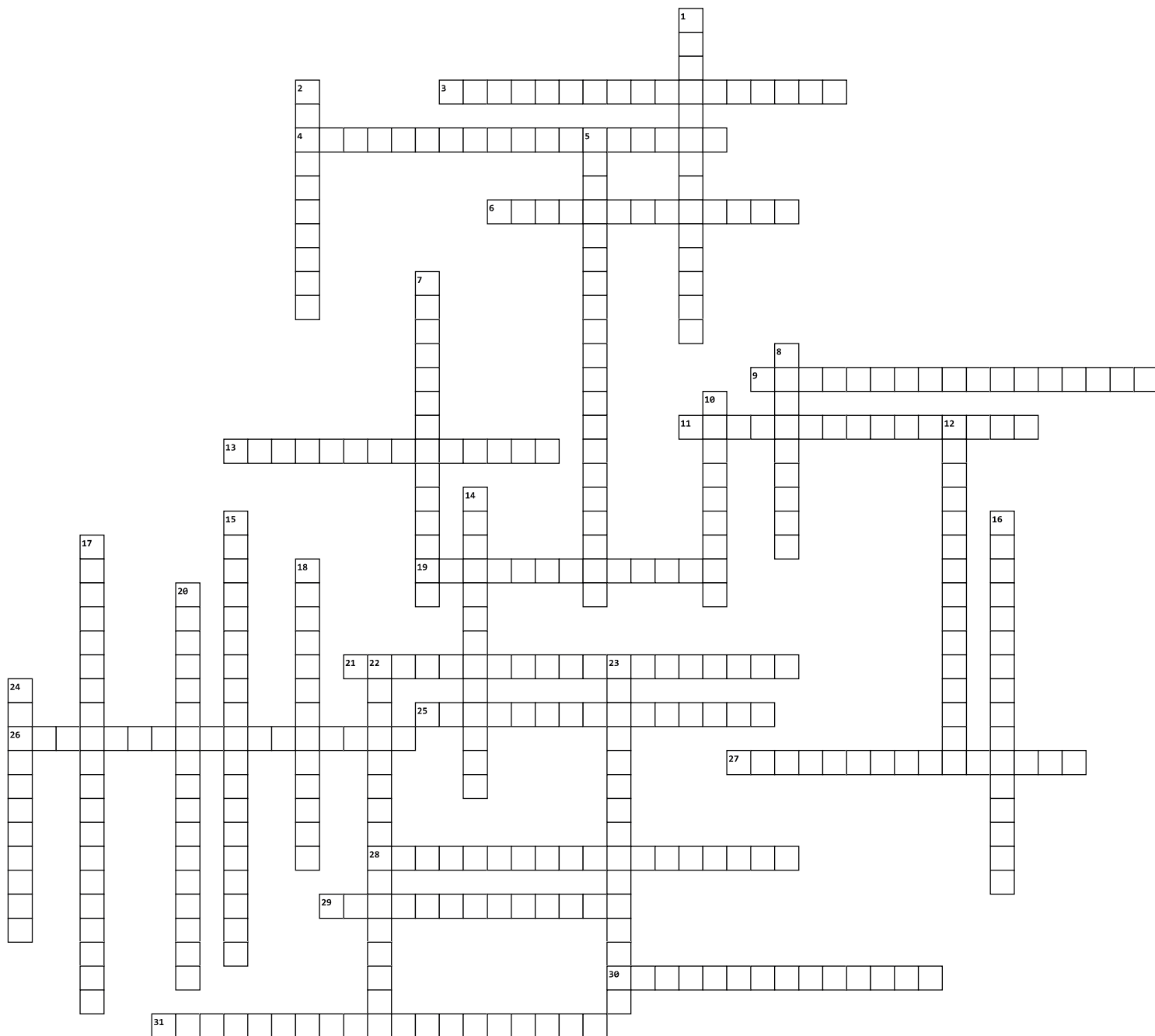


Thermodynamics



Across

- 3.** The change in enthalpy when a reaction occurs at constant pressure.
- 4.** The potential energy of molecules which drives chemical reactions.
- 6.** The heat required to raise the temperature of the unit mass of a substance by one degree.
- 9.** A thermodynamic quantity that measures the useful work obtainable from a system.

Down

- 1.** A reference state for a substance used to calculate its properties under different conditions.
- 2.** A law stating that total entropy of an isolated system can only increase over time.
- 5.** A number that expresses the relationship between products and reactants at equilibrium.
- 7.** Enthalpy per mole of a substance.
- 8.** A principle stating that energy cannot be created or destroyed, only transformed.

- 11.** A process that requires external energy to proceed.
- 13.** A property whose value does not depend on the path taken to reach that specific value.
- 19.** A property that depends on the route taken between initial and final states.
- 21.** A condition where all parts of a system are at the same temperature.
- 25.** The interface separating a system from its surroundings.
- 26.** A condition in which all competing influences are balanced in a system.
- 27.** The total energy contained within a system.
- 28.** A process that can be reversed without any net change in the system and surroundings.
- 29.** The amount of heat needed to increase the temperature of an object by a certain amount.
- 30.** The change in entropy when a process occurs.
- 31.** The principle that the total energy of an isolated system remains constant.
- 10.** Energy transferred when a force moves an object.
- 12.** The total heat content change in a system at constant pressure.
- 14.** The movement of heat energy from one object to another.
- 15.** A process that occurs without needing to be driven by an external energy source.
- 16.** The pressure exerted by a single component in a mixture of gases.
- 17.** A process that cannot return the system to its original state.
- 18.** A system that exchanges energy but not matter with its surroundings.
- 20.** The change in enthalpy when one mole of substance is formed under standard conditions.
- 22.** The change in heat during a chemical reaction at constant pressure.
- 23.** A system that does not exchange energy or matter with its surroundings.
- 24.** A system that exchanges both energy and matter with its surroundings.