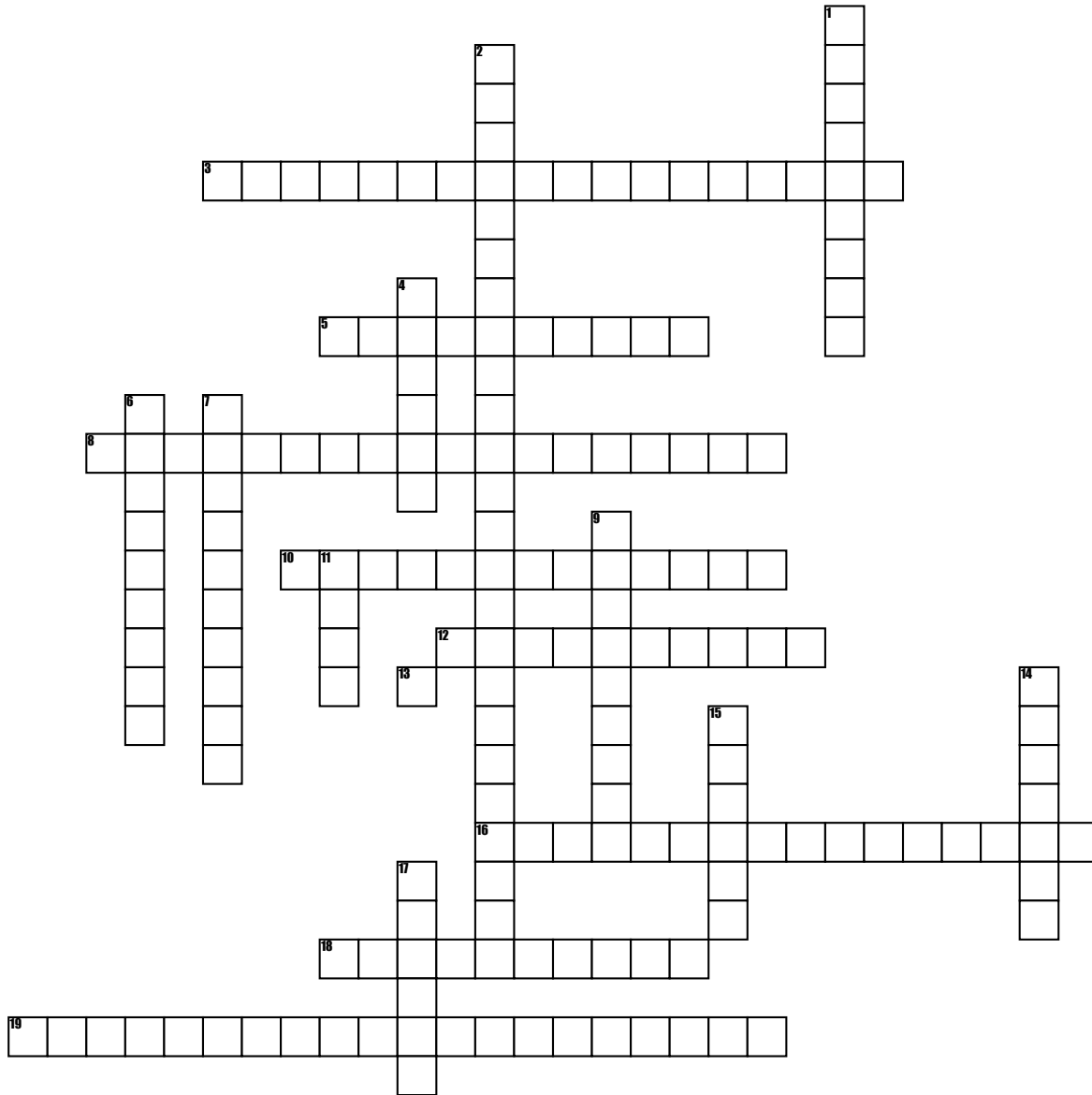


Thermodynamics



Across

3. A system is said to be in this when its temperature is constant and there is no net transfer of energy

5. Transfer of thermal energy by physical movement of particles from one place to another

8. Heat needed to melt a solid into a liquid

10. The total amount of energy in a substance- the sum of all its kinetic and potential energy

12. Transfer of thermal energy that occurs through collision between particles of matter

16. When some materials are heated or cooled, their length changes in proportion to the change in temperature

18. The thermal energy required to change 1 kilogram of a substance from one phase to another

19. Thermal energy required to change the temperature of 1 kilogram of substance by 1 degree Celsius

Down

1. Materials that are good at conducting thermal energy

2. Heat needed to boil a liquid into a gas

4. When objects of different temperatures are brought into contact, the flow of thermal energy is always from the higher temperature object to the lower temperature object

6. Transfer of thermal energy in the form of electromagnetic waves

7. Device that converts thermal energy into work

9. Materials that conduct thermal energy poorly

11. Thermal energy that is transferred between objects because of a temperature difference

13. Symbol for heat

14. Measures the amount of disorder in the system

15. It is impossible to lower the temperature of an object all the way to absolute zero

17. Change in thermal energy is equal to the heat added to the system minus the work done by the system