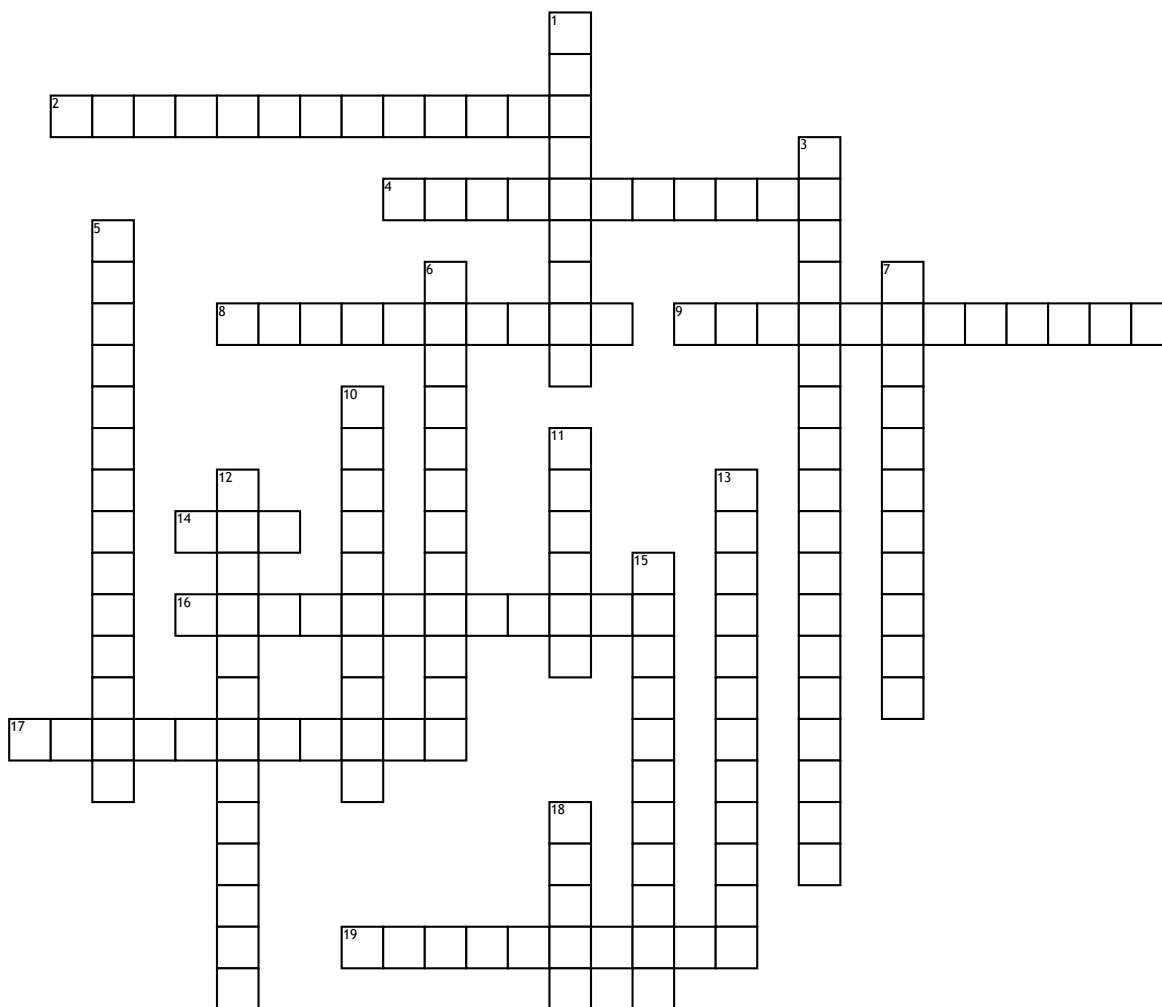


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# States of Matter



## Across

2. the energy an object has due to its motion

4. the reversible physical change that occurs when a substance changes from one state of matter to another

8. Charles's Law The volume of a gas is directly proportional to its temperature (in kelvins) if the pressure and the number of particles of the gas are constant.

9. a temperature of 0 Kelvin

14. the state of matter in which a material has NEITHER a definite shape NOR a definite volume

16. the phase change in which a substance changes from a gas or vapor to a liquid

17. the process that changes a substance from a liquid to a gas at temperatures below the substance's boiling point

19. when a gas or vapor changes directly into a solid without first changing to a liquid (example: frost)

## Down

1. The volume of a gas is inversely proportional to its pressure if the temperature and the number of particles are constant.

3. the amount of energy a substance must absorb in order to change from a liquid to a gas.

5. mathematically describes the relationship between pressure, volume and temperature of a gas when number of particles is constant

6. the amount of energy a substance must absorb in order to change from a solid to a liquid

7. the phase change in which a substance changes from a solid to a gas or vapor without changing to a liquid first

10. a change in which a system releases energy to its surroundings

11. the state of matter in which a material HAS a definite volume BUT NOT a definite shape

12. the pressure caused by the collision of particles in a vapor and the walls of a container

13. the phase change in which a substance changes from a liquid to a gas

15. a change where the system absorbs energy from its surroundings

18. the state of matter in which materials have BOTH a definite shape and a definite volume