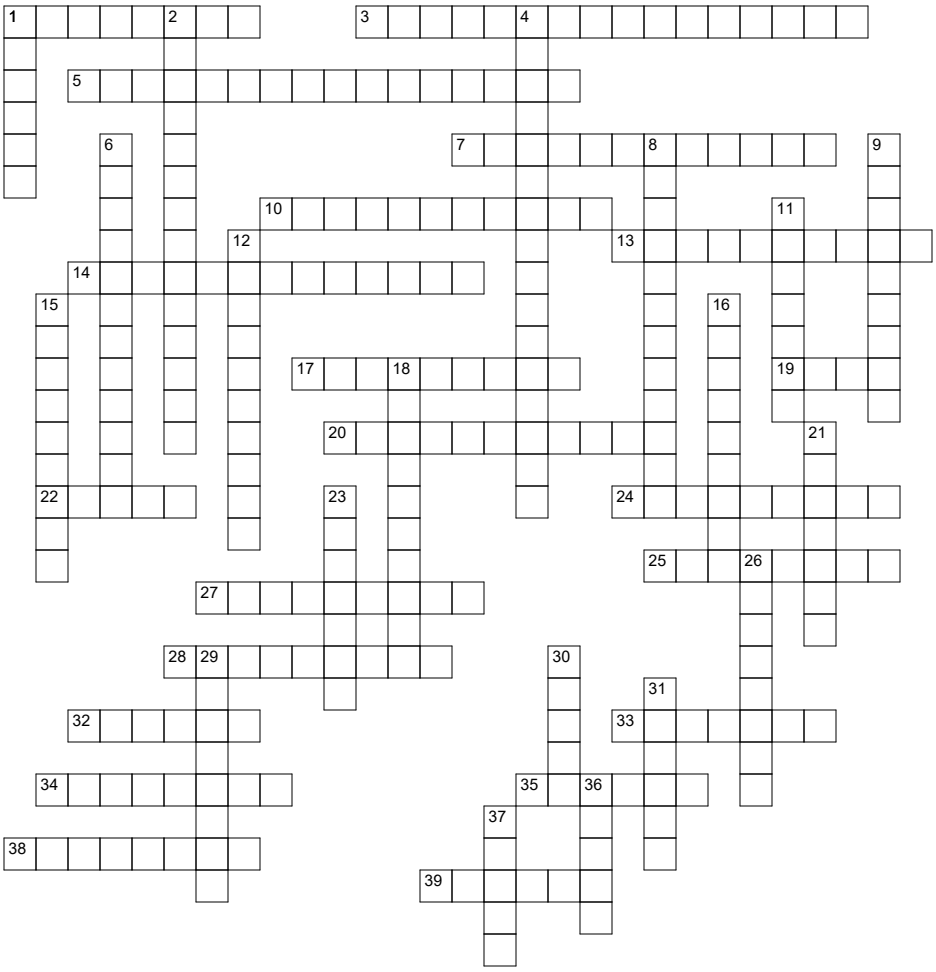
Gases



Across

1. At higher temperatures, gas particles have, on average, a greater ___
3. The main theory of gas behaviour: ___ ___ theory (KMT)
5. The total pressure in a mixture of gases is the sum of the ___ ___ for the gases in the mixture (plural)
7. The ___ ___ of a substance in a mixture can be found by dividing moles of that substance by the total moles (or partial pressure by total pressure)
10. The ___ ___ ___ equation takes the ideal gas law and adds corrections to account for real gases
13. Gases can be ___ because of the relatively large space between particles
14. KE = 3RT/2 (KE = average ___ ___)
17. The bigger the ___ ___ of a gas, the slower the particles will move at a given temperature
19. Ideal gases don't exist; instead we experience ___ gases every day.
20. The only variable that determines the average kinetic energy of gas particles
22. A gas described by KMT is said to be ___
24. The ___ distribution shows how the distribubtion of kinetic energies (or velocities) of gas particles takes the form of a bell curve
25. Volume and temperature of gases are ___ proportional
27. Pressure and volume of gases are ___ proportional
28. A device used to measure gas pressure in the lab
32. This scientist discovered how to find total pressure of gases in a mixture
33. Gases do not behave ideally at very ___ temperatures and ___ pressures (2 words)
34. STP: ___ temperature and pressure
35. The absolute temperature scale has no negative temperatures - it uses units called ___
38. A force acting over an area creates ___
39. If the temperature of gas doubles from 200 K to 400 K, the ___ of the gas will also double if other variables are held constant

Down

1. A postulate of KMT: gas particles are not just small ... they have no ___! Just points in space.
2. A postulate of KMT: gas particles don't experience any ___ forces
4. 8.314 kPa-L/mol-K or 0.08206 atm-L/mol-K
6. A graph of pressure and temperature for gases would take the shape of a ___ ___
8. -273.15°C: ___ ___
9. A graph of presssure vs volume would take the shape of a ___
11. Traditionally, a barometer was filled with liquid ___, which led to a common unit for pressure
12. A unit of pressure
15. Gases will spread out from areas of high concentration to areas of low concentration ... this is called ___
16. A device used to measure atmospheric pressure
18. A unit of pressure
21. A postulate of KMT: collisions between particles don't lose energy ... they are ___ collisions
23. This scientist studied the effect of changing temperature on the volume of a gas
26. A gas escaping through a pinhole opening into a vacuum outside
29. This scientist studied the relationship between the amount of gas and its volume
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31. One of the postulates of KMT: Gas particles are in constant, random ___
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37. At STP, 22.4 L is the ___ volume of any gas

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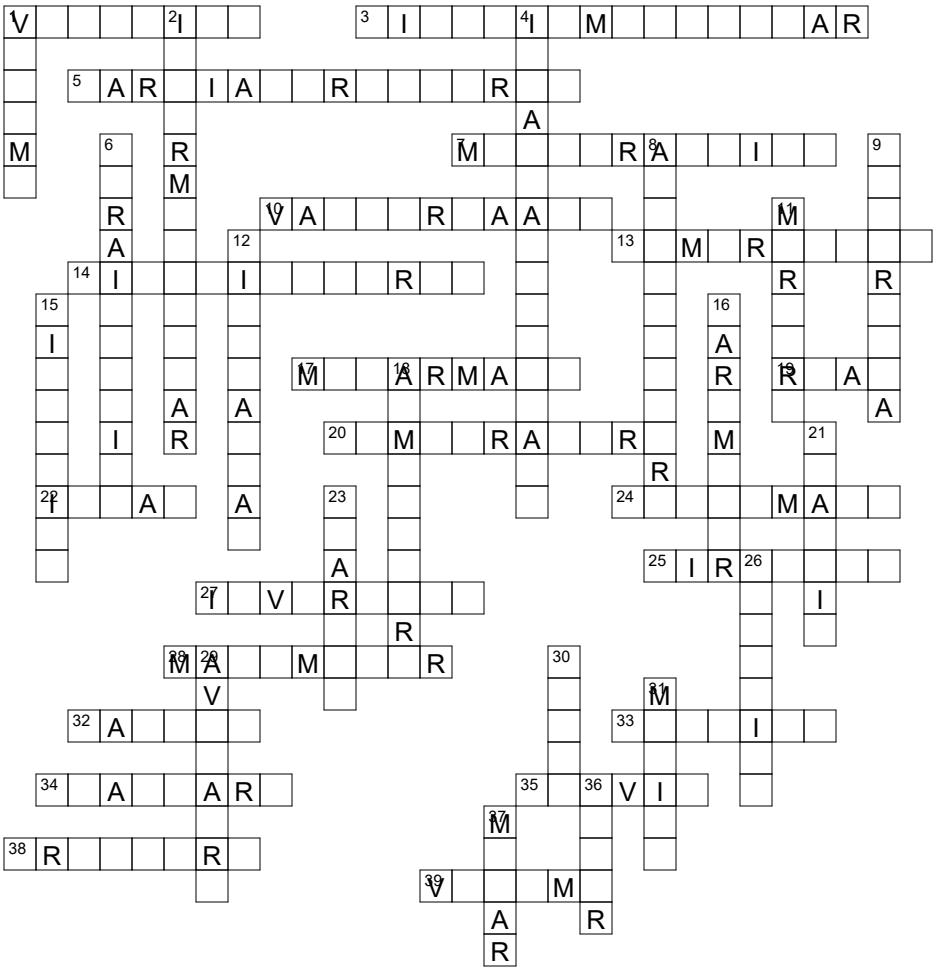

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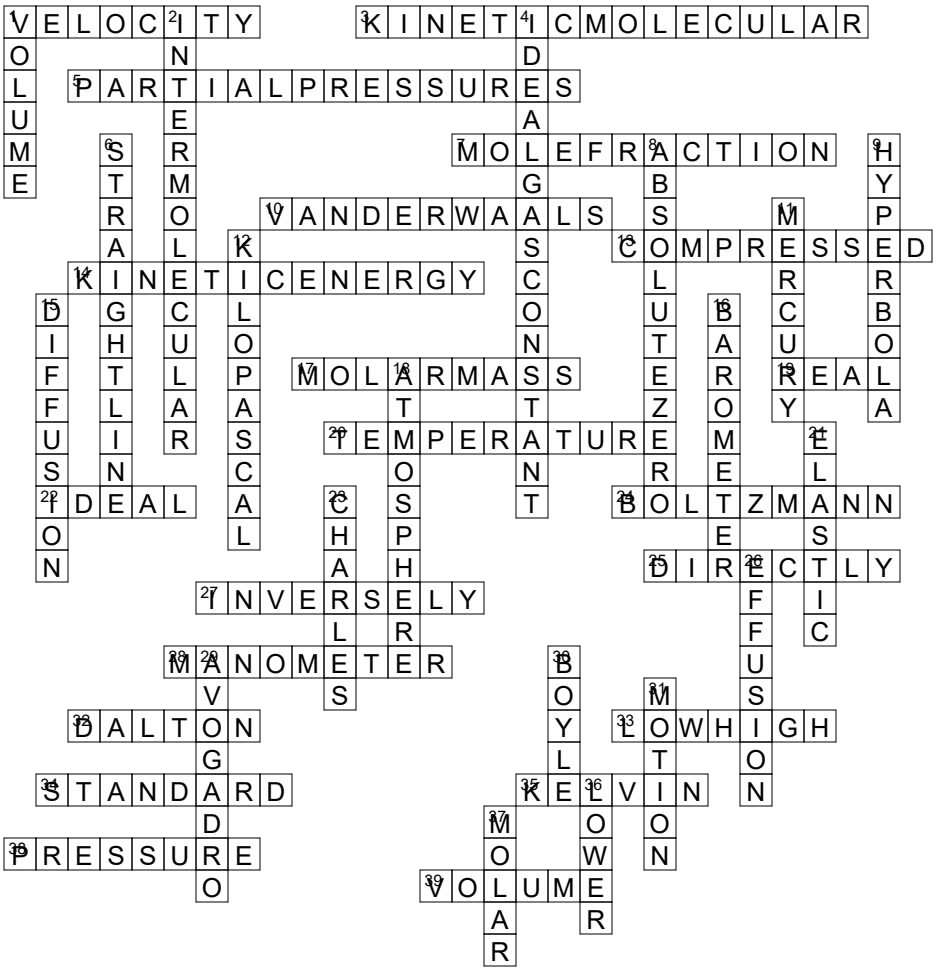

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