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| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Gas Laws

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  | 1  C | O | M | P | R | E | S | I | B | I | L | I | T | Y |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | 2  M | O | L | A | R | V | O | L | U | M | E |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |  | 3  P |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 4  I | N | 5  V | E | R | S | E | R | E | L | A | T | I | O | N | S | H | I | P |  |  |  |  |  |  |  |  |  |
|  |  |  |  | A |  |  |  |  |  |  |  | S |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | C |  |  |  |  |  |  |  | C |  |  |  |  |  |  |  |  |  |  | 6  A |  |  |  |  |  |  |
|  |  |  |  | C |  |  | 7  P | A | R | T | I | A | L | P | R | E | S | S | U | R | E |  | V |  |  | 8  A |  |  |  |
|  |  |  |  | U |  |  |  |  |  |  |  | L |  |  |  |  |  |  |  |  |  |  | O |  |  | V |  |  |  |
| 9  D | I | F | F | U | S | I | O | N |  |  |  |  |  |  |  |  | 10  G |  | 11  D |  |  |  | G |  |  | O |  |  |  |
|  |  |  |  | M |  |  |  |  |  |  |  |  |  |  | 12  B |  | A |  | I |  |  |  | A |  |  | G |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | A |  | S |  | R |  |  |  | D |  |  | A |  |  |  |
|  |  |  |  |  |  |  | 13  A | T | M | O | S | P | H | E | R | E | P | R | E | S | S | U | R | E |  | D |  | 14  I |  |
|  |  |  |  |  |  | 15  E |  |  |  |  |  |  |  |  | O |  | R |  | C |  |  |  | O |  |  | R |  | D |  |
|  |  |  |  |  |  | F |  |  |  |  |  |  |  |  | M |  | E |  | T |  |  |  | S |  |  | O |  | E |  |
|  |  |  |  |  |  | F |  | 16  V | A | P | O | R | P | R | E | S | S | U | R | E |  |  | P |  |  | S |  | A |  |
|  |  |  |  |  |  | U |  |  |  |  |  |  |  |  | T |  | S |  | E |  | 17  K |  | R |  |  | H |  | L |  |
|  |  |  |  |  |  | S |  |  |  |  |  | 18  C |  |  | E |  | U |  | L |  | I |  | I |  |  | Y |  | G |  |
|  |  |  |  |  |  | I |  |  |  |  |  | H |  |  | R |  | R |  | A |  | N |  | N |  |  | P |  | A |  |
|  |  |  |  |  | 19  B | O | Y | L | E | S | L | A | W |  |  |  | E |  | T |  | E |  | C |  |  | O |  | S |  |
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|  |  |  |  |  |  |  |  | 20  A | 21  B | S | O | L | U | T | E | Z | E | R | O |  | I |  | P |  |  | H |  | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  | E |  |  |  |  |  |  | N |  | C |  | L |  |  | E |  | N |  |
|  |  | 22  C | O | M | B | I | N | E | D | G | A | S | L | A | W |  |  |  | S |  | E |  | E |  |  | S |  | S |  |
|  |  |  |  |  |  |  |  |  |  |  |  | L |  |  |  |  |  |  | H |  | N |  |  |  |  | I |  | T |  |
|  |  |  |  |  | 23  G | A | Y | L | U | S | S | A | C | S | L | A | W |  | 24  I | D | E | A | L | G | A | S | L | A | W |
|  |  |  |  |  |  |  |  |  |  |  |  | W |  |  |  |  |  |  | P |  | R |  |  |  |  |  |  | N |  |
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|  |  |  |  |  |  |  |  |  | 25  K | I | N | E | T | I | C | T | H | E | O | R | Y |  |  |  |  |  |  |  |  |

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| **Across**  **1.** D  **2.** the volume occupied by one mole of ideal gas at STP. Its value is: 22.414 L mol¯1.  **4.** Z  **7.** N  **9.** Z  **13.** S  **16.** E  **19.** Boyle's law states that at constant temperature for a fixed mass, the absolute pressure and the volume of a gas are inversely proportional.  **20.** The lowest temperature that is theoretically possible.  **22.** When we put Boyle's law, Charles' law, and Gay-Lussac's law together, we come up with the  **23.**  thermal expansion of gasses and the relationship between temperature, volume, and pressure.  **24.** A physical law describing the relationship of the measurable properties of an ideal gas  **25.** Z | **Down**  **3.** S  **5.** S  **6.** states that, "equal volumes of all gases, at the same temperature and pressure, have the same number of molecules"  **8.** S  **10.** S  **11.** H  **12.** A  **14.** a physical constant which is featured in many fundamental equations in the physical sciences, such as the ideal gas law and the Nernst equation  **15.** S  **17.** S  **18.** Charles's law is an experimental gas law that describes how gases tend to expand when heated.  **21.** Molar |