

# The Gas Laws

| Law              | Relates    | Held Constant   | Equation   |
|------------------|------------|-----------------|--|
| Boyle's Law      | P, V       | T, n            | $PV = k_T ; P_1 V_1 = P_2 V_2$                                   |
| Charle's Law     | V, T       | P, n            | $\frac{V}{T} = k_p ; \frac{V_1}{T_1} = \frac{V_2}{T_2}$          |
| Gay-Lussac's Law | T, P       | V, n            | $\frac{P}{T} = k_v ; \frac{P_1}{T_1} = \frac{P_2}{T_2}$          |
| Combined Gas Law | P, V, T    | n               | $\frac{PV}{T} = k_n ; \frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$ |
| Avogadro's Law   | V, n       | T, P            | $\frac{V}{n} = k_z ; \frac{V_1}{n_1} = \frac{V_2}{n_2}$          |
| Ideal Gas Law    | P, V, n, T | <i>Nothing!</i> | $PV = nRT$   |