

Vocabulary: Boyle's Law and Charles's Law



Vocabulary

- Absolute zero – the coldest possible temperature.
 - Absolute zero is equivalent to $-273.15\text{ }^{\circ}\text{C}$, or $-459.67\text{ }^{\circ}\text{F}$.
 - At absolute zero, the molecules in a substance do not move.
- Boyle's law – at a constant temperature, the volume of a fixed amount of gas varies inversely with pressure on the gas.
 - As pressure increases, the volume of the gas decreases.
 - As pressure decreases, the volume of the gas increases.
- Charles's law – with pressure on the gas held constant, the volume of a gas varies directly with temperature.
 - As temperature increases, the volume of the gas increases.
 - As temperature decreases, the volume of the gas decreases.
- Gay-Lussac's law – at a constant volume, the pressure of a fixed amount of gas varies directly with temperature.
 - As temperature increases, the pressure of the gas increases.
 - As temperature decreases, the pressure of the gas decreases.
- Kelvin scale – a temperature scale that begins at absolute zero.
 - On the Kelvin scale, water freezes at 273.15 K , and water boils at 373.15 K .
- Pressure – force applied to a surface.
 - Pressure is calculated by dividing the force by the area of the surface.
 - The SI unit of pressure is the *pascal* (Pa), or newton per square meter.
 - Normal atmospheric pressure (air pressure) is $101,325$ pascals at sea level.