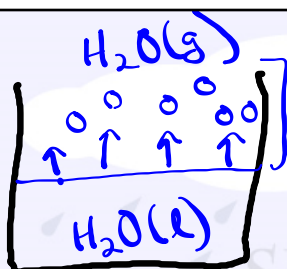


## Vapor Pressure

**Aim:** How does vapor pressure relate to intermolecular forces and temperature?

Nov 7-2:39 PM

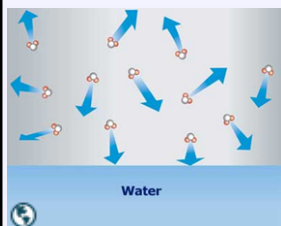


**Vapor Pressure:** the pressure above the surface of a liquid from its evaporated molecules.

**Evaporation:** when a liquid slowly escapes as a gas on the surface only.

**Vaporization:** when an entire liquid changes to a gas at its boiling point.

-To boil, vapor pressure **MUST** equal atmospheric pressure.

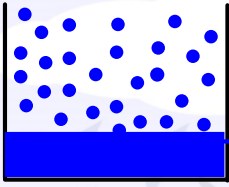

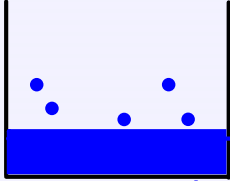


**Two factors that influence the vapor pressure of a substance:**

- Temperature
- Intermolecular forces of attraction

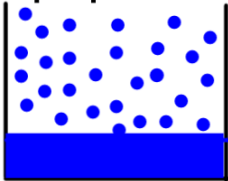
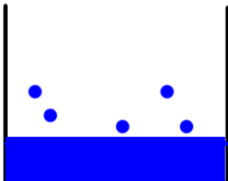
**Vapor pressure increases as evaporation increases.**

Nov 7-2:39 PM

propanone	ethanol	water
		
evaporated the fastest		evaporated the slowest
highest vapor pressure b/c it has the most evaporation.		Highest BP b/c it took the longest to evaporate.
WEAKEST IMF		STRONGEST IMF

**A substance with weaker IMF will have a lower BP and a higher vapor pressure at any temperature.**

Nov 7-11:28 AM

<u>Intermolecular Forces, Evaporation, Vapor Pressure, and Boiling Point</u>	
<p>propanone</p>  <p><b>HIGH VAPOR PRESSURE</b></p> <ul style="list-style-type: none"> <li>evaporates quickly.</li> <li>weak intermolecular forces.</li> </ul> <p><u>Boiling point at Standard Pressure</u></p> <ul style="list-style-type: none"> <li>B.P. = 55 °C</li> </ul>	<p>water</p>  <p><b>LOW VAPOR PRESSURE</b></p> <ul style="list-style-type: none"> <li>evaporates slowly.</li> <li>strong intermolecular forces.</li> </ul> <p><u>Boiling point at Standard Pressure</u></p> <ul style="list-style-type: none"> <li>B.P. = 100 °C</li> </ul>
<p>A substance with strong intermolecular forces will have a low vapor pressure and high boiling point.</p> <p>This is because it is difficult to separate the molecules and cause evaporation.</p>	

Vapor Pressure (kPa)

Nov 7-2:39 PM