When a solute is added to a solvent, this property increases.
When a solute is added to a solvent, the freezing point does this.
Decreases.
This is the reason the boiling point increases when a solute is added to a solvent.
Increased attraction means lower vapor pressure
This is the concentration unit needed when calculating the change in freezing point or boiling point of a solution.
molality
This is the “i” value for $\text{K}_2\text{CO}_3$
3, \[2K^+\] and \[CO_3^{2-}\]
Solute of:
74% water
26% methanol
Methanol
Solvent of:
65% water
35% NaCl
Water
This is the substance that becomes dissolved
Solute
Hexane is a nonpolar solvent and water is a polar solvent. Given the following, this is an example of a nonpolar solute in a polar solvent.

<table>
<thead>
<tr>
<th>Solute</th>
<th>Water</th>
<th>Hexane</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH₄Cl, ammonium chloride</td>
<td>Soluble</td>
<td>Insoluble</td>
</tr>
<tr>
<td>C₁₀H₈, naphthalene</td>
<td>Insoluble</td>
<td>Soluble</td>
</tr>
<tr>
<td>C₂H₅OH, ethanol</td>
<td>Soluble</td>
<td>Soluble</td>
</tr>
<tr>
<td>CO(NH₂)₂, urea</td>
<td>Soluble</td>
<td>Insoluble</td>
</tr>
</tbody>
</table>
Naphthalene in water
These are the forces that water must overcome for a salt to dissolve.
Ionic bonds
Mg(OH)$_2$
Yes, base
C₆H₁₂O₆
No, sugar
$\text{K}_2\text{CO}_3$
Yes, salt
These kinds of solutions can cause the light bulb to light up.
Acids, bases or salts
Of the following solutions: KF solution, vinegar, sugar water, ammonia, isopropyl alcohol, HCl solution, these are considered nonelectrolytes.
Isopropyl alcohol and sugar water
Molarity of 40.0g HF in 600.0mL of solution
3.33 М
What do I need to do to a 50.0mL of a 0.500M solution to make a solution that has a final concentration of 0.300M?
Add 33.3mL
This is the molality of a solution that contains 23.0 grams of NaCl dissolved in 250mL of water.
Daily Double!!
This is the mass of NaCl dissolved in a solution that has a percent mass of 4.51% and a solvent mass of 119.36g.
5.64g
This is the mole fraction of NaOH in a solution that contains 25.3g of NaOH is 100.0mL of water.
The solubility of a solid does this when the temperature is decreased.
Decreases
The solubility of a gas does this when the temperature is decreased.
Increases
The solubility of a solid does this when the particle size is increased.
Decreases
This much KNO₃ will dissolve 25g of water at 50°C.
20 grams
Of the following, this substance can act as a solute AND a solvent!

<table>
<thead>
<tr>
<th>Substance</th>
<th>Solubility (g/100g water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MgCl$_2$</td>
<td>54.6</td>
</tr>
<tr>
<td>NH$_3$</td>
<td>34.0</td>
</tr>
<tr>
<td>C$_2$H$_5$OH</td>
<td>infinite</td>
</tr>
<tr>
<td>CO(NH$_2$)$_2$</td>
<td>0.29</td>
</tr>
</tbody>
</table>
Ethanol
This is the change in boiling point of a 0.52m solution of $\text{C}_6\text{H}_{12}\text{O}_6$ ($K_b$ of water is 0.51 °C/m)
0.27°C
This is the change in freezing point of a 2.38m solution of NaOH (\(K_f\) of water is 1.86 °C/m)
8.85°C
This is the boiling point of a 3.2\text{m} aqueous solution of KCl ($K_b$ of water is 0.51 °C/m)
103.3°C
28.3g of NaOH is added to 350.g of phenol. This is the boiling point of the solution. The $K_b$ of phenol is 3.60 °C/m and the boiling point of pure phenol is 181.8°C.
196.3°C
The freezing point of pure ethanol is -114.1°C. This freezing point of a solution containing a nonelectrolyte dissolved in ethanol is -118.3°C. This is the molality of the solution. The $K_f$ of ethanol is 1.99°C/m.