Class Example Chemical Reactions:

Filled = oxygen
Hollow = hydrogen

Which one was the limiting reagent?
O₂ because we ran out of it first

What was in excess? By how much?
H₂ by 2 moles

Chemicals can be soluble in many different types of solvents
- Most things in nature are mixtures (solutions)
- Reactions usually happen in aqueous solutions
- Tincture = something dissolved in ethanol, not H₂O
- Chemical that dissolves is called solute
- Aqueous solution = water’s the solvent

Bath water isn’t pure water (distilled water)
- It conducts electricity because it has things mixed into it, such as soap, dirt you’re washing off yourself, and sodium chloride mixed into the water.

In class demonstration

<table>
<thead>
<tr>
<th></th>
<th>Has charged parts?</th>
<th>Parts can move?</th>
<th>Electrically conductive?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure H₂O</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Aqueous sugar solution</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Salt crystals at room temperature</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Aqueous salt solution</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Have to have yes for both to conduct electricity
- Sugar is a molecule, so not charged