

solubility

- solute - thing that is dissolved
- solvent does the dissolving (way more than solute)

solutes dissolve in solvent with similar polarity

like dissolves like

solute is usually ionic (opposite charges)

other compounds that act similar to waters

can be dissolved by water

- N-H
- O-H
- F-H

all of these can form hydrogen bonds

why is water a good solvent

the water molecule's slightly opposing polarities on the oxygen and hydrogen allow it to pull the molecule from the solute when working together with other water molecules and pop the molecule off

water will attack the corners and outside first

nonpolar substances

impossible to be dissolved by water alone

- ex: oil

but can be dissolved with the help of other solvents

hard vs soft water

hard water

water that has :

- Ca^{2+}
- Mg^{2+}
- Fe^{3+}

too high charge for water to pull off

soft water

water that has Na^+ or K^+ ions in it

dissolves very well

switches hard ions out