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# The Relationship Between Salt Solubility and Solvent Polarity

## How is this related to the actual salt dissolving?

- Salt is made up of ions (cations and anions) that carry each carry a positive and negative charge, respectively.
- Due to the charges of each ion, the water will therefore be attracted to the salt.

Here is a video that illustrates what is occurring when salt is dissolved into water.

[[http://www.youtube.com/watch?v=CYjHuCyCL3s&feature=player\\_embedded](http://www.youtube.com/watch?v=CYjHuCyCL3s&feature=player_embedded)]

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Let's look at experimental proof that salt is indeed dissolving in water!

[[http://www.youtube.com/watch?v=nggSwXusGW4&feature=player\\_embedded](http://www.youtube.com/watch?v=nggSwXusGW4&feature=player_embedded)]

- Due to the ions (that were originally in the rigid lattice structure) are now free in the water- electricity can be conducted and that's why the light bulb shines.
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**So what happens when we change solvents from a polar solvent (water) to a non-polar solvent such as hexane?**

Let's look at it experimentally!!

[[http://www.youtube.com/watch?v=N6W3k9n\\_tfk&feature=player\\_embedded](http://www.youtube.com/watch?v=N6W3k9n_tfk&feature=player_embedded)]

- The salt remains in its original rigid lattice structure (that's why you see the "undissolved" salt at the bottom of the beaker).
- Because the salt is still solid, there are no free floating ions in the solution to allow for electricity conduction.